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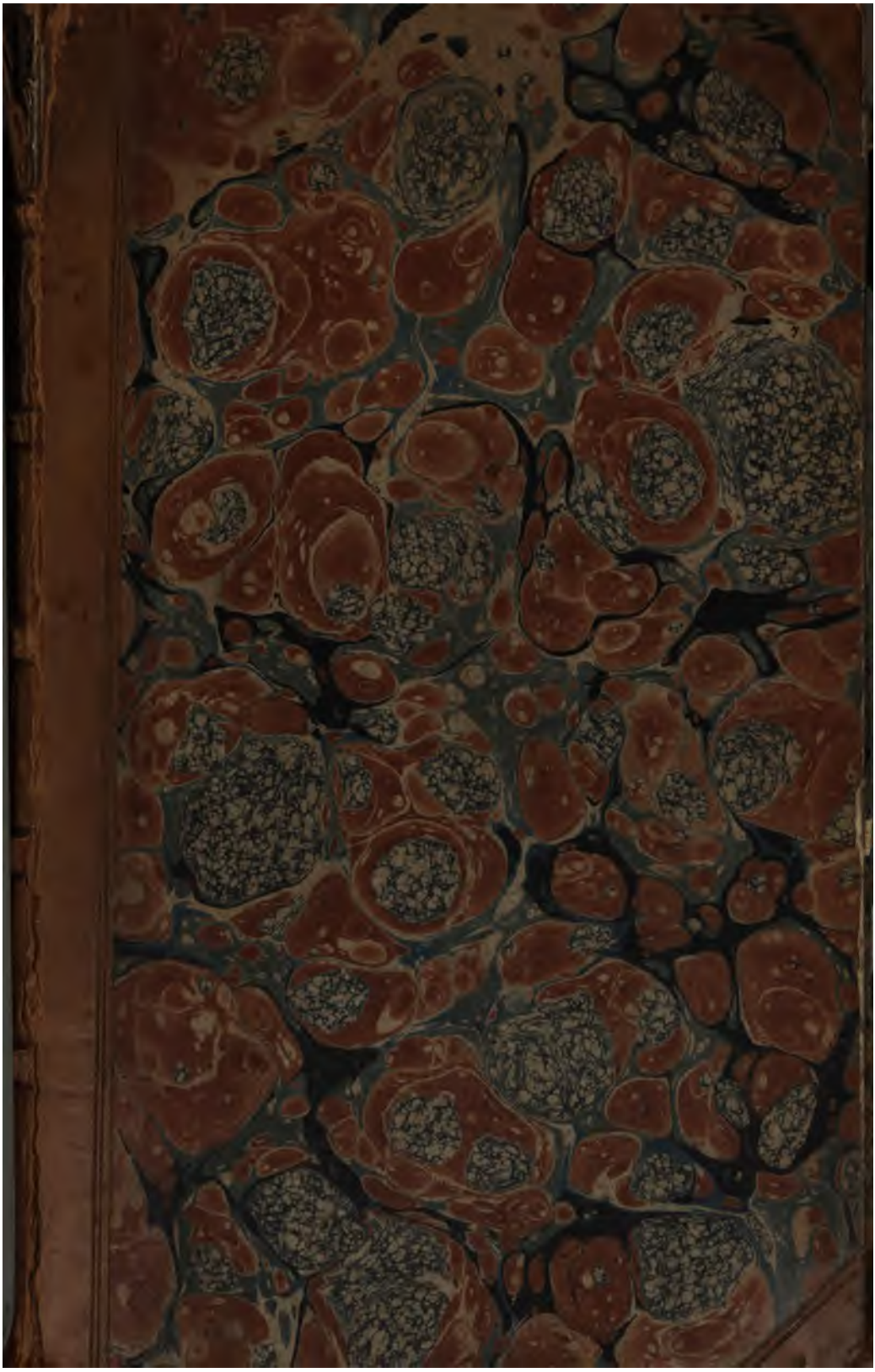

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CASES

OF

DIABETES, CONSUMPTION, &c.

WITH

OBSERVATIONS

ON THE

HISTORY AND TREATMENT

OF

DISEASE IN GENERAL.

BY ROBERT WATT,

MEMBER OF THE FACULTY OF PHYSICIANS AND SURGEONS,
GLASGOW.

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1808.

TO

MR JAMES MUIR,

SURGEON,

THE FOLLOWING WORK IS INSCRIBED

BY

HIS PARTNER AND FRIEND,

THE AUTHOR.

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INTRODUCTION.

THE well directed labours of Dr Rollo, and of a numerous train of followers, have attracted the attention of medical men to Diabetes; and the general fatality of this disease, notwithstanding all the efforts of art, has excited no common degree of sympathy and interest. Much has been done to ascertain the history, something to palliate the symptoms, but little to remove the cause of this disorder. The readiness with which professional men grasp at every new remedy proposed attests the inefficacy of the means previously employed. The success attendant on the following cases has induced the author to submit them to the public, with some observations illustrative of the history of Diabetes, and of disease in general; in the hope, that should a similar result obtain in the hands of others, medicine may bring relief in some of the most calamitous disorders to which humanity is subjected.

The early appearance of this work may seem to require an apology; and it might have been thought prudent to have deferred the publication, till, by a more extensive application, the utility of the practice was confirmed. The opportunities of seeing well marked cases of Diabetes, in private practice, are few; but should others adopt a similar practice, the application, safety and efficacy of the remedies may be sooner ascertained. Evidence thus procured will bring more conviction than could be received from the testimony of an individual, however extensive his experience. The liberality of the profession, and the uncertainty of former remedies will, no doubt, induce some to make trial of the mode of treatment suggested; and however rash the practice may be deemed, no personal considerations will deter them from employing means, that promise to alleviate human misery.

To justify the employment of venesection, in cases attended with such extreme debility; and where the morbid state of the blood, according to generally received notions, indicated a contrary practice, he relies upon the success of the treatment, and on the judgment of such as have studied the animal economy, not from systems, but from

nature, whose conclusions are not the dictates of a master, but the result of experience. The improved texture of the blood as venesection was repeated, the increased hilarity of mind, and general renovation of the living functions warrant the conclusion that, however weakening it may be in particular circumstances, blood-letting is a most important mean of disburdening the system, and of preparing the way for the final re-establishment of health and vigour. The manner in which venesection operates, the precise point to which it may be carried, with the general and local effects requisite to accomplish a cure, remain to be ascertained with more accuracy.

The rapid restoration of health after venesection, blistering and an abstemious diet in cases, where from the great prostration of strength and excessive emaciation, a stimulating mode of treatment seemed indicated, discloses views of the animal economy by no means favourable to some modern opinions. It is to be feared, that a dread of debility and an emaciated state of body, from an inflammatory, not a hectic cause, have sometimes deterred practitioners from employing depletion, and the patient has been quietly resigned to his fate.

As diabetes is so obviously aggravated by too much aliment or stimuli, and as there is such an attendant bulimia, the first aim of the practitioner should be to remove a portion of that food, which, since it does not nourish, must oppress and injure the system. Animal diet accomplishes this object to a certain extent, for during its use, the quantity of ingesta is necessarily diminished, and a partial abstinence is enforced. More might have been done, if, instead of an exclusive confinement to animal food, the quantity of ingesta were gradually diminished, till no more were received than the digestive organs could easily prepare, and the functions of assimilation successfully convert to the support and nourishment of the system. Artificial depletion may, in some measure, supersede the necessity of too strict adherence to an abstemious diet; but the end will undoubtedly be more easily, and effectually accomplished if the patient can exert the requisite fortitude to resist the cravings of appetite, and to repress urgent thirst. These indulgences increase the flame, which sooner or later consumes the patient. We aid the cure by a diminution of the supply, and the same means protract the fatal period, or smooth

the passage to the grave, when a cure is beyond the reach of art.

The importance of blisters in the treatment is particularly evident from Mr J. C's case, and it may be a subject of curious and useful inquiry, to ascertain the mode of their operation.

The efficacy of mercury cannot be overlooked, whether we regard its operation as a stimulant or evacuant. There is probably no medicine that affects the system so powerfully in eradicating either acute or chronic ailments, or after the prudent application of which, the human frame attains a state of such vigorous and healthful enjoyment. This sentiment is not in unison with the anathemas of some modern declaimers; but is consonant to the experience of those, who have employed this valuable medicine to eradicate not to palliate disease.

The author can speak with more confidence on the antiphlogistic treatment, and the use of mercury, since in diseases bearing a striking resemblance to Diabetes, and indeed characterized by the greater number of the symptoms, except such as depend on the local affection, the same plan of treatment has been efficacious. Many of these cases present no novelty of detail, except in so far as they lead practitioners to attend more minutely to

the condition of the patient immediately preceding the attack. The similar origin of most complaints is detected, and as the history of disease is thus investigated, the practice of medicine may become more simple, and uniform. In prosecuting this part of the inquiry, it was thought better to select a few cases of different diseases, than to give a lengthened detail on any particular disorder. Other, and more simple modes of treating these, and similar complaints, may probably be devised. It is fortunate, that in medicine there are different ways of accomplishing the same end; and it may have a tendency to silence the clamors of theorists against particular modes of practice, when they perceive the same ends accomplished by means seemingly so different, and lead them to ascertain the effects, without speculating about the sedative or stimulating qualities of the medicines employed.

Though the agents employed be seemingly different, cures are effected by bringing the system into a similar state, and it would, therefore, be desirable to have the effects accurately ascertained, whatever remedy may be employed. In most complaints it will be found that little has been gained, till the mental depression or affection give way,

till the arid and husky feel of the skin yield, till the cutaneous, alvine, urinary and salivary discharges be re-established, and till the bodily feelings of the patient become comfortable.

The theory, contained under the heads physiology, and pathology, was introduced to give something like a rational account of the practice. As it has led him to adopt some parts of the treatment, it may perhaps, enable others to satisfy themselves on the safety, and propriety of depletion in cases of apparent debility. Whatever opinion may be entertained of the theory is of comparatively little moment; the practice, if prudently employed, will answer reasonable expectation.

In the following cases, the minuteness and want of method, which necessarily attend details of this kind may appear tedious, but the author was induced to give as full a history as possible of a disease, concerning the nature and treatment of which, much still remains to be discovered. The investigation, he thinks, has led him to more rational views of disease in general. He has omitted no material fact, that came under his observation; and readers who attentively peruse, the cases, to whatever theory they may be attached, will find a faithful delineation of disease. Notwithstanding

the fulness of the histories, some important circumstances may have passed unnoticed. He is more concerned on this point, than that the detail should appear superfluous. Judging of the feelings of others from his own, he believes more disappointment is felt if material facts are omitted, than to have the most minute features of a complaint delineated. When the comfort, the health and the lives of mankind are concerned, too much care cannot be bestowed on writing, or perusing the history of disease.

Paisley, 10*th October*, 1808.

CASES OF DIABETES,

WITH

Observations.

CASE I.

M. DRUMMOND; AGED 35,

LABOURER.

January 15th 1805.

THIS patient was originally of a robust constitution, accustomed to hard labour, and generally to a low diet; he lived at times freely; but was not given to habits of dissipation. He never had much relish for animal food, and, for these last three or four months, had a dislike to it. His diet has been, pretty uniformly, porridge and ale to breakfast and supper, oat cakes and cheese or butter to dinner.

For some time past, he was uncommonly fond of the porridge and ale, and took them in greater quantity than he used to do, when in health; yet his body is rapidly wasting, and his strength declining daily. He has been much troubled with

thirst, particularly when at any kind of exercise, and through the night. For some time he has made water oftener, and in much greater quantity, than he used to do; but this did not surprise him, as he imputed it to drinking so much ale and water. He used to perspire a good deal, when at work and in bed; but has not done so, for the last two or three months.

His skin is dry, rough, and insensible to the touch, his tongue is white and foul. He is distressed, particularly in the mornings, with a tough disagreeable mucus about the throat, which keeps him constantly hawking and spitting. The gums are spongy and ulcerated about the roots of the teeth. He has a constant pain and weakness across the region of the kidneys, and some excoriation about the external orifice of the urethra. The prepuce does not cover the glans penis. He is troubled with heat and uneasiness about the stomach and bowels, particularly after dinner, and sometimes rejects his food.

At all periods of his life he was subject to heart burn and acid eructations. The bowels were in general regular, of late rather costive. He thinks it may be about six weeks, or two months, since he first observed the change in his urine; and that

it may be near three months since the urgent thirst commenced.

About the month of February last, by being long exposed to wetness, he contracted a pretty severe cold, had stitches in the breast, a troublesome cough, and difficulty of breathing. These continued, less or more, for several weeks, and prevented him, for a few days, from following his usual employment. By the end of March, or beginning of April, they were removed, but he never afterwards, though he enjoyed tolerable health, recovered his former strength.

He was desired to ascertain the quantity of urine made in twenty-four hours, and to observe if it had any particular taste.

16th.

He called, and told me he had made a little more than eight pounds, from nine at night till seven next morning, and that it was surprisingly sweet. He had not an opportunity of collecting it through the day, but supposes it might be as much. A little which he brought in a phial, was of a light straw colour, with a tinge of green; it had a fragrant sweet smell, and tasted like honey and water.

He was ordered to take a dose or two of castor

oil to empty his bowels; to confine himself entirely to animal food, and to leave off his employment. To the last of these he objected, as it was merely going with a horse and cart, and, as his employers were sufficiently indulgent, he thought he could continue, without doing himself much harm. To the two first he agreed, but was afraid the animal diet would not go well down with him; however he resolved to give it a fair trial.

22d.

He has taken two doses of castor oil, which have operated well. No kind of animal food would stay on his stomach; even the very sight of it was like to make him vomit. His strength had declined so rapidly, since last consultation, that he found it impossible to continue longer at his work, and had thoughts of going home to his native place.

Some elixir of vitriol was prescribed, of which fifteen or twenty drops were to be taken, three times a-day, in a cupful of water. He was also earnestly exhorted to abide by the animal diet, as the only means by which his life could be saved. By a steady adherence to it, as the disease was not very far advanced, he had every reason to expect a

complete cure. He seemed much affected with his situation, and promised to do his best.

25th.

He called on his way home, said he had found great relief from the drops; they had enabled him to take and retain some animal food; they had also cooled his body, and abated the violence of his thirst. Having drank less, the quantity of urine, last night, did not exceed four pounds, but it differed little from what he had formerly made, either in taste or appearance. He seemed to be relieved, and in much better spirits than when he called last. I had hopes, therefore, that by due perseverance, a cure might be accomplished.

Taking advantage of these favourable circumstances, I earnestly renewed my injunctions, and received many fresh promises of compliance. Nothing was heard of him till the middle of March, when a relation called and told me he was dead. I could learn few particulars of what was done after he went home, only he had made strong efforts to continue by the regimen, and frequently repeated what I had told him; "that it was the only means by which his life could be saved."

Observations.

It was the current report of his relations, and of the people in the neighbourhood where he died, that the disease was a GALLOPING CONSUMPTION. We frequently hear of this fatal disorder, may it not in some instances, as in the present, be real Diabetes? Dr Dobson observes, that in some cases, the Diabetes proves a very rapid consumption; he has known it terminate fatally in less than five weeks.*

I have attended, and seen some other cases of Diabetes, where the treatment, recommended by Dr Rollo, was more fully tried, than in the present; but though it often gave relief, and in some instances, promised a cure; yet it has uniformly failed.

The preceding case is related, not on account of any importance in itself; but rather as an apology, for the apparently rash practice in the second and third. The moment I examined Stevenson, the fatal result of Drummond's case, presented

* Medical Observations and Inquiries, Vol. V.

itself to my remembrance. Having little or no faith in any course of medicine, my fears were still farther confirmed, when I understood, that he had acquired the same insuperable reluctance to animal food.

It is of importance, to know the course of a disease, when left to itself. Few such cases have been published. Disease seldom comes under the observation of medical men, without some attempts being made to arrest its progress. These often change its course, and alter its character, without preventing its fatal termination. The publication of cases, as they occur, would enable the practitioner to distinguish the progress of disease, from the action of remedies. But this is a task, which few, who have characters to lose, would venture to perform. Men are unwilling to represent themselves as idle spectators, and still more so, to shew want of discrimination, or want of conduct; for to one or other of these, failures are generally attributed.

The present case shews the fatal nature of Diabetes in a striking light. I had occasion to see the patient in October 1804; he had got one of his legs a little hurt, the examination of which, caused me to take more notice of his make and

strength, than I would otherwise have done. At that time, he had the appearance of high health and spirits. His body was large, muscular, and well formed. I saw him now and then for some time after this; but not for several months, before he consulted me last. I could scarcely believe it was the same person. His countenance was completely changed, his brawny limbs, which I had so lately admired, were shrunk to little more than skin and bone; a slight œdema, about the ancles, disfigured them still more.

I have thought proper to take particular notice of the rapid decline in this patient's health, from the circumstance of its being held out, in a late work of eminence, that Diabetes occurs seldom, except, among old and infirm people. Speaking of the urgent thirst, and preternatural secretion of urine, it is observed, that "In truth, they seem both to be the symptoms of the breaking up of a constitution, and have hardly ever been known; but in very infirm and old people, in whom age or distemper had so far injured some of the parts necessary to life, that death must soon have ensued, whether the patient made too much water, and was wasted in a Diabetes, or made hardly any, and was bloated in a Dropsy. It is not very improb-

able," continues the same Author, "that some trivial circumstance determined the body to take on one of these diseases, rather than the other, and that the removing of either of them, would do but little towards saving the patient's life."*

In the cases which I have seen, and I believe the same observation will hold, with regard to all that have been published, more than the half of them have occurred, between the ages of thirty and forty-five; and of the other half, a greater number are below the former of these ages, than above the latter. Of the whole, the best marked, and the most rapid in their progress, have occurred in the very prime of life, and when the constitution was supposed to be in its full vigour. There is, perhaps, no period of life completely secure from the disease, though few instances have been recorded, under the age of puberty. I have met with one instance, in a boy of three years of age. It was most distinctly marked; the urine amounted to six or seven pints daily; the voracious appetite, urgent thirst, and arid skin, were very remarkable. He had also phymosis, and afterwards suppression of urine. The disease terminated in a fatal Dropsy.

* Heberden's Commentaries.

In so far, as this disease is characterised by the sweet taste of the urine, Drummond's was the most perfect case of the Diabetes Mellitus, which I have seen. No experiments were made on the urine; of course the quantity and quality of the extract were not ascertained; but, from the saccharine matter being so perceptible to the taste, its proportion must have been very considerable.

With regard to the frequency of this symptom, very opposite opinions have been entertained. Dr Cullen had treated twenty cases of Diabetes. From his account of the matter, it would appear, that the sweet taste of the urine is a very prominent feature of the complaint, and one, which is seldom absent, and not difficult to be discovered. "I think," says he, "I have met with ONE instance of Diabetes, in which the urine was perfectly insipid; and it would seem that a like observation had occurred to Dr Martin Lister. I am persuaded, however, that such instances are very rare, and that the other is by much the more common, and perhaps the almost universal occurrence. I judge, therefore, that the presence of such a saccharine matter, may be considered as the principal circumstance in Idiopathic Diabetes."

Dr Heberden has seen about twenty cases too,

and his opinion is the very reverse of that of Dr Cullen. "The urine in a Diabetes is said to have a honey-like sweetness; but in my judgment," says he, "formed upon the most perfect cases of this distemper, it ought in most persons to be called insipid, in ONE joined with a fever, I found it sweetish."*

From the examination, and treatment of near forty cases, by such practitioners as Cullen and Heberden, a more consistent history of the disease might have been expected, especially, with regard to a point of so much SUPPOSED interest, as the sweetness of the urine.

I have always thought, that the division of Diabetes into Mellitus and Insipidus, was more fanciful than real, and more systematic than useful. That in one instance the urine is sweet, and in another insipid, is evident enough; but unless we can say where the one disease terminates, and where the other begins, or unless it suggest some variety in the practice, the distinction serves only to perplex the practitioner.

The fact seems to be, that wherever there is

* This quotation is from the English edition of Dr Heberden's Commentaries. In the Latin one, the ideas are different, or at least, more cautiously expressed.

a permanently increased, and altered secretion of urine, if it be carefully analysed, less or more saccharine matter will be found; but, if it be merely tried by the taste, in perhaps more than one half of the cases that occur, it would be pronounced insipid. The variety then is only in degree, and may perhaps, be totally disregarded in practice. Dr Bardsley has very properly remarked, that "when the sensible qualities of this fluid did not point out the least saccharine impregnation, yet, on exposing an extract, obtained from it by evaporation, to the test of chemical analysis, it was found to contain more or less of the oxalic acid."* The saccharine matter may be present, but so covered with other substances, that it cannot be at all detected by the taste.

These observations seem to account for the remarkable difference of opinion entertained by the two Authors. Cullen probably drew his inference from the chemical analysis of Diabetic urine, Heberden from simply tasting it.

* Medical Reports, page 170.

CASE II.

JOHN STEVENSON; AGED 36,

LABOURER.

September 1st 1807.

About four years ago, during hard labour, and while perspiring very copiously, he took a full draught of cold water, his bowels were immediately affected, and he was seized in the evening with a severe colic, which continued for a day or two, and was succeeded by a troublesome diarrhœa, of ten months duration. The diarrhœa was cured by an anodyne astringent mixture, and he enjoyed a very good state of health till last spring.

In April, he had a fever, with a violent cough and pain in the breast. During this illness, he put on a flannel shirt, but in the warm weather, at the end of May, his skin turned itchy, and he

perspired so profusely, that he found it necessary to put it off. By the first of June he was able to attend his work, and towards the end of that month the sweating entirely left him, and has not since returned.

In June and July he was tolerably well, worked hard, and had a keen appetite. In the end of July, his stomach was frequently disordered, particularly after meals, his strength began to decline, he felt an unquenchable thirst, and made an unusually great quantity of urine. He was not, formerly, accustomed to rise through the night, could lie from nine till six or seven next morning, without inconvenience; but of late he has been obliged to make urine four or five times in the night; and to his astonishment as much each time, as he used to do in the morning.

The uncommon appearance of the urine excited his attention more than any other circumstance attending the disease. When newly made it was pretty natural, but while cooling it became of a reddish brown muddy colour, not unlike thick porter, or moss water. After standing an hour, it deposited a brownish sediment; the remainder was of a pale straw colour.

His stools were white, soft, and frequent, sel-

dom less than three or four a-day, accompanied with a troublesome tenesmus, and constant uneasiness in the bowels. Two weeks ago, he was employed in thatching and repairing the roof of a house, and stood, for several days, on a ladder when, his feet and legs, swelled to nearly twice their natural size; but on leaving that employment, the swelling went off, and has not returned, to any extent.

Besides the uneasiness in his bowels, which attended him at all times, he was generally seized, after dinner, with a violent twisting, a little above the navel, as if something was about to protrude through the integuments. This sensation was so strong, that he apprehended suppuration would follow: it has abated, for some days past, owing, he supposes, to his having taken little or no dinner. Some weeks ago, he had a most distressing pain, in the course of the sagittal suture. His eyes too, were painful and muddy, and his vision indistinct. Of late the headach has become moderate, and, on using some ointment, the eyes are better.

His mouth is constantly dry and parched, or covered with a tough, disagreeable phlegm. His thirst is insatiable; he drinks, principally, butter

milk, or cold water; but the vessel is no sooner from his head, than the desire to drink returns. His appetite has been impaired, for some weeks, particularly for dinner. The teeth are loose, and he frequently presses them, inadvertently, together. The gums are raw and spongy, ulcerated about the roots of the teeth, and have a reddish purple margin. The tongue is white and foul. He has some degree of heat, and soreness, in the region of the kidneys, and along the course of the ureters, particularly before making water. There is a little redness, and swelling, about the external orifice of the urethra; the prepuce does not extend over the glans penis. He has had no desire, nor ability for venery, since the month of July. He still follows his employment, but is not able to do half work, and feels uncommonly tired in the evening.

When in health, he was of a cheerful turn of mind, and fond of conversation; but since seized with this complaint, he has been uncommonly dull, feels distressed, if any person speaks to him, particularly if they ask a question that requires thinking: he often sits, for hours after he comes home, without almost speaking a word, or seeming to take any interest in what is going on in the

family; which is contrary to his former practice. He thinks this change in his deportment, arises from a kind of stupor, for he has no unusual anxiety about any thing. He observed, about two weeks ago, when in bed, that his pulse was uncommonly slow; he could count one, two, three, four, between every beat. At present it is 60, and rather weak and quivering.

During the summer, his diet was porridge and butter milk to breakfast and supper, broth and beef to dinner, twice a-week; for the other days, sowens * and milk, potatoes, barley and milk, bread and cheese, or bread and butter: he never liked fish, and has little relish for butcher meat; in summer he is particularly partial to butter and cheese.

He has been always sober and industrious, given to no kind of excess, except working at times beyond his power. He is of the middle size, reddish complexion, and of a firm robust constitution. He never was fat, but is, at present, much leaner than usual. His skin is exceedingly

* An article of diet very common in Scotland; it may be prepared, by macerating oat meal in water, till it become sour; the liquor is then strained, and boiled, to the consistence of a thin paste. There are few kinds of food more grateful to a sick person, or more easy of digestion.

dry, harsh, and hidebound; has observed no kind of moisture on his body, for many weeks, and, though sitting in a warm room, his feet and hands feel cold and lifeless.

He has never ascertained the quantity of urine made in a given time, but supposes it may amount to, from twelve, to sixteen pints, in twenty-four hours; always varying, according to the quantity of drink taken. Some, which he lately made, is of a pale straw colour, has a fragrant grateful odour, and a sweet taste. His calls to void urine are frequent, and urgent; so that, unless he prepare instantly, the discharge is involuntary. He sleeps pretty well, but has to rise, generally, five or six times every night.—He was ordered a dose of castor oil, and afterwards to confine himself, as much as possible, to a diet of animal food.

4th.

He has ate almost nothing, these three days, except animal food; but it does not agree with his stomach. He vomited violently, after breakfast, both yesterday and to-day, and has acquired a reluctance to this diet, which, I am afraid, will not be easily overcome. He never felt the thirst more severe, than it was yesterday afternoon. He has made a little more than thirteen pints of

urine, last twenty-four hours, of nearly the same appearance as formerly, but rather more of the red sediment. His strength declines so rapidly, that he cannot walk a quarter of a mile, without feeling very much fatigued.

After coughing up some tough mucus from his throat, in the morning, it was followed by a little blood. This circumstance suggested the propriety of taking blood from the arm. I was still farther induced to try the experiment, from recollecting, that Capt. Merideth, on the evening after blood-letting, according to his own expressions, "felt lighter, cooler, and more cheerful, and had less pain about the kidneys."* Besides these reasons, former want of success, in treating this formidable disease, was a sufficient apology for trying any probable plan of affording relief.

I took fourteen ounces of blood from his arm, in a pretty full stream. He bore the operation well, sat up all the time, and had not the least tendency to faint. Pulse, before blood-letting, 60, very weak, and not quite regular. After blood-letting, 58, and firmer. The blood was taken in two large cups; after standing sometime,

* Dr Rollo's Cases of Diabetes, page 27.

its surface was spangled, with a purplish blue colour, in a few minutes more, the red disappeared entirely, and the whole became blue.

5th.

After blood-letting, he walked about, during the rest of the day; was more cheerful, and thought himself better—his thirst was not so urgent, as on former days. Towards the evening he became hungry, and ate some roasted mutton with relish. He slept well, and made urine only four times, during the night.—Urine, last twenty-four hours, was nine pounds and a half; the taste, smell, and appearance, pretty much the same as formerly; but the red sediment is less. He had only one stool yesterday, which was more of a brownish colour, than any he has had for some weeks. He took a moderate breakfast, and has had no inclination to vomit.

The blood taken yesterday, has its surface a little cupped, and of a whitish yellow colour. On lifting the crassamentum, out of the serum, and looking at the side of it, it seemed to consist of three strata. The first, about the sixteenth part of an inch, and of a whitish yellow; the second, about half an inch, and of a pretty bright red; the last, about the same thickness; and

quite black. On breaking it up, the whole mass was found to consist of a soft black substance, not unlike pitch in appearance, but devoid of tenacity. The red zone was superficial, and the yellow stratum on the top, as thin as a bit of paper, and could easily be separated from the black substance below. The proportion betwixt the crassamentum and serum was nearly natural. I could perceive no kind of sweetness in the latter.—Finding that the first bleeding had done good, I determined on a second.

Pulse 50. Eighteen ounces of blood were taken from his arm, without producing the least tendency to faint.—Pulse 48.—The beats, though pretty firm, were succeeded by a kind of quivering, like the vibrations of a spring, after it strikes against an object. The blood, on standing a few minutes, had the same appearance as yesterday. —Twelve pills were ordered to be taken daily, each containing four grains of carbonate of ammonia. These were prescribed, for correcting some acidity in the stomach, and for improving the urine. He was desired, to keep as closely by the animal diet, as possible; but not to the total exclusion of vegetables, a small quantity of bread, was allowed to every meal.

6th.

He continued well yesterday afternoon, took a little roasted mutton to dinner, and supper—slept soundly, and had only to rise three times. He has made a little more than nine pints of urine, last twenty-four hours. The red sediment is nearly gone, but in other respects the urine is the same as formerly.—Took four of the pills last night, and an equal number this morning. The thirst has been more moderate, the pain and twisting in the bowels, and the soreness across the region of the kidneys, are abated. No stool. Pulse 64, and regular. He took some hyssop tea, bread, and a boiled herring, to breakfast; has been out walking, and thinks himself greatly better.—Pills and animal diet to be continued.

The blood taken yesterday, is very similar to that taken the day before. Top of the crassamentum is not so white; all the lower part of it is extremely dark, and so devoid of tenacity, that it cannot be elevated, with a probe, above the surface of the serum. When agitated a little, it dissolves, and mixes with the serum, leaving only the thin buffy covering entire.

The state of the pulse, the dissolved appearance of the blood, and the emaciation of the patient, by

no means indicate the propriety of phlebotomy. The symptoms, however, have certainly given way a little, or, at all events, there is less hazard in the practice, than is generally apprehended. It is on these grounds, and the intractable nature of the disease, that the farther prosecution of this plan of treatment can be justified.

7th.

He thinks himself better, the quantity of urine nearly the same as yesterday. It has acquired a slightly urinous smell, but is still sweet to the taste. He had some return of the thirst, in the afternoon, and thinks his drink may equal the urine he makes. The gums are not quite so spongy, but their edges are still red, and the teeth a little loose. He had an easy natural stool, in the afternoon. Continues pretty closely by the animal diet.—Pulse 64, soft and regular.

He lost eighteen ounces of blood, from his arm; sat up during the operation, and felt no tendency to faint. He walked about, afterwards, and was more cheerful. Pulse continued the same as before the operation.—After a few minutes the surface of the blood in the cups, became of a pale whey colour, the red disappearing entirely. A flannel slip, was ordered to be worn next the skin,

and the whole body to be kept more comfortably warm.

8th.

He had an easy natural stool yesterday afternoon—thinks himself somewhat better—thirst moderate; drank only twice or thrice of milk and water, during the whole of the day, about a pint at a time. Continues to take the pills as directed—put on a flannel shirt, and warmer clothing. The teeth are not so loose, as formerly; the sponginess, and purple margin of the gums, are considerably gone. He made little more than seven pints of urine, last twenty-four hours, and rose only twice, from ten last night, till eight this morning.—Urine still sweet—skin very dry, harsh, and scaly.

The state of the skin, appearing to be an obstinate part of the complaint, and perhaps intimately connected with the morbid secretion of urine, I resolved to try, if antimonials would produce any change in its action. With this view, powders, each containing four grains of the pulvis antimonialis, were prescribed, one to be taken every two hours, till they vomited, purged, or produced some moisture on the skin.

The blood taken yesterday is much the same as

formerly. Crassamentum sinks in the serum, is whitish on the top, but black beneath, and so devoid of tenacity, that a probe thrust through the coagulum, could not lift it half out of the serum, without cutting out the hold.

9th.

He had an easy stool, in the afternoon, of a brownish colour, and fetid smell. He took one of the powders at five, and another at seven. After taking the second, he became remarkably sick, and, in about three quarters of an hour, vomited violently. What he threw up was very acid. After vomiting, he found himself better than usual, went to bed at nine, and did not need to rise, till between five and six this morning; which is a longer interval, than he has had, since he was first affected with the disease. In the last twenty-four hours, the urine amounts to little more than five pints, has a pretty strong urinous smell, and salt taste. No stool, in consequence of the powders. He thinks this the best day he has had. He feels almost no thirst, his spirits are light, and his mind cheerful.

I was now convinced, that some impression was made on the disease, and that hopes of a favourable termination might be entertained. It appears

too, pretty obvious, that, although good has been done by vomiting, the principal merit is to be attributed to the copious bleedings. As they have been evidently beneficial, the practice may be repeated with some confidence.

I took, from his arm, eighteen ounces of blood, in three large cups. It had flowed in a very full stream; when tying up his arm, he became faintish, and went to bed. He felt an unusual warmth over his body, and soon after, a gentle perspiration broke on his temples, and some other parts of his body. Nothing of this kind has appeared for many weeks, though he used, formerly, to perspire on the least exertion.—He is to remain in bed, and take one or two of the powders, to encourage a determination to the skin.—The blood, on standing a little, became very sizy on the surface, and much more inflamed, than any of the former bleedings.—On coughing up the tough phlegm from the throat, it was, generally, mixed with streaks of blood; these, since soon after the the present plan of treatment was adopted, have entirely disappeared.—Pulse, before blood-letting, 76, after the faintishness had left him, which happened almost immediately on lying down, it was 70, firm and regular.

10th.

He took two of the powders—was very sick, and uneasy all day—had no appetite for food—thirst was moderate. Had a natural stool, in the afternoon, and a soft one this morning, apparently in consequence of the powders. He went to bed at nine, slept very well till seven, and was only up twice during that period. He has made little more than four pints of urine, last twenty-four hours, of a pretty high colour, saltish taste, and urinous smell. He perspired a little, during the night. The ulceration, purple margin, and sponginess of the gums, are quite gone. Tongue clean, and of the natural colour.

Pulse 70, firm and regular. He took breakfast well, and has felt himself more comfortably warm than usual, since yesterday. He had a pretty long walk, in the morning, and finds his strength gradually returning. No medicines to be used today. The blood, taken yesterday, is more inflamed, than any of the former—the buffy coat is thick, and contracted—crassamentum is more tenacious—it can be lifted, by a probe, out of the serum, and suspended for a little.

11th.

He had a whitish stool, in the afternoon, not

unlike those he used to have formerly—felt some thirst through the day—took a little spirits and water, at twelve. He has made rather more than seven pints of urine, last twenty-four hours. When agitated in the vessel, it has a little of the urinous smell, and no perceptible sweetness to the taste. Could the increased quantity of urine be owing to the want of the ammoniated pills? I would have been apt to impute the white stool to the same cause; but this morning he had a brown one as before. He had some of the pain, and twisting in his bowels, this morning, which he imputes to taking brandy and water before breakfast. Pulse 80, firm and regular. Pills to be continued, and to avoid tasting any kind of spirits.

12th.

He has taken the pills, and had two, pretty copious, loose, brown stools. The thirst was moderate, through the night, but pretty urgent, in the afternoon. He was up four times, and has made eight pints of urine, last twenty-four hours. It has no perceptible sweetness, but less of the urinous smell, than it had on some of the former days. For the last three days, his appetite has been keen, but he finds, he takes more victuals, than his stomach can digest. Yesterday, after

dinner, he had a considerable return of the twisting, and distension in the upper part of the abdomen. He is still cheerful, and on the whole thinks himself better. He was desired to regulate the quantity of food, not by the keenness of his appetite, but by his power of digestion.

As considerable progress had been made towards a cure, under a mixed diet, I wished, by all means, to give it a farther trial, before resorting again to the sole use of animal food. This part of the treatment, I conceived to be of the greatest importance; because, the principal objection to Dr Rollo's plan was, the impracticability of abstaining from vegetables, with that strictness, which he conceived necessary to the accomplishment of a cure. "We have to lament," says he, "that our mode of cure is so contrary to the inclinations of the sick. Though perfectly aware of the efficacy of the regimen, and the impropriety of deviations, they commonly trespass, concealing what they feel as a transgression, to themselves. They express a regret, that a medicine could not be discovered, however nauseous, and distasteful, which would supersede the necessity of any restriction of diet."* This faithful picture of the distress

* Rollo.

attending a restriction in diet, must be familiar to every person, who has seen patients treated on that plan.

13th.

Urine, last twenty-four hours, is a little more than seven pounds, somewhat sweet to the taste, and deposits a brownish cloud. He had a little pain in his head, yesterday, and this morning—one easy natural stool. Having limited the quantity of food, and avoided the more indigestible articles, his stomach has been easier. He felt a little of the pain, and twisting in his bowels, yesterday after dinner, but nothing of it to-day. The thirst has not been so troublesome—in other respects, he finds himself no better—did not sleep so well, and had occasion to rise four times. Pulse 80, weak, but regular—tongue foul.

My thoughts were much divided. The evident relapse, in most of the symptoms, pointed out the necessity of doing something. But whether to go on bleeding, without the light of experience, or to return to the sole use of animal food, was the subject of doubt. When I put my former success in bleeding, when the patient was in a more debilitated state than now, into one scale, and my total want of success, by animal diet, in this, and

all former cases, into the other, I determined to risk another bleeding, and if the patient seemed to bear it well, to make it large, that its effects might be sufficiently ascertained. My patient, on this, as on all former occasions, was perfectly willing to do any thing I should suggest. Had it been otherwise, even a little resistance from that quarter, in such a doubtful case, would have been sufficient to shake my resolution.

I took from his arm, in a pretty full stream, twenty-four ounces of blood. During the operation, my attention was particularly directed, to the effects it would produce on the system. His countenance did not alter in the least, his pulse became slower; but, in point of strength, it rather improved. He talked cheerfully all the while, and though the operation was performed in an erect posture, he did not feel the least faintish; he walked about, afterwards, and seemed to be in high spirits. Pulse 72, firm, and regular.—Ordered some lime water to be prepared.

14th.

The history of the last twenty-four hours is important. He has made only four pints of urine, as nearly natural as can be ascertained, by the taste, smell, and appearance. The lime water was pre-

pared, but thinking it too strong, he took only about an ounce of it. He walked in the afternoon, and was astonished to find a degree of strength, and agility, to which, for many weeks, he had been a total stranger. When he stooped suddenly, he was always troubled with a pain in his head; he can now stoop, and rise, with the greatest freedom. Formerly, he could not run a dozen of paces, on any account. His bowels felt loose, and heavy, like a ball of lead; when he attempted to run, he thought they would drop out; any other violent exertion of the body gave him the same sensation. This morning, he ran six or seven hundred yards, nearly as fast, as he could have done at any former period of his life, and was not fatigued. The re-appearance of the powers of virility, too, after an absence of more than two months, gave the most lively hopes, that a complete cure was fast approaching. Pulse 74, firm, and regular.

The blood taken yesterday is very much inflamed. The crassamentum is drawn into the form of a globe, and so tenacious, that it can be lifted, by a probe, from the serum, and held out like an orange. The serum is of a pale straw colour, rather muddy, and not at all sweet to the taste.

This change in the appearance of the blood is very remarkable, and unexpected. The patient is getting fast better, but the blood is more inflamed, than at any former period of the disease. At first, the buffy coat was a mere pellicle; at present, it is not only thick; but contracted to the size of a shilling. The lower part of the crassamentum too, is much more tenacious than formerly. The most violent cases of pneumonia, or acute rheumatism, do not shew the blood more sizy, and morbid in its texture.

15th.

He continues better, had an easy stool yesterday afternoon—he made about three pints and a half of urine, last twenty-four hours, which is salt to the taste, has a pretty strong urinous smell, and is of the natural appearance—had only to rise once, through the night. He eats sparingly, but finds his appetite good, particularly for breakfast and dinner; never takes supper, and seldom any thing from dinner till breakfast—has walked some miles this morning—says, that he is much more able to work now, than he was, several weeks ago. No thirst; he drank a gill of lime water, diluted with common water, three

times yesterday, found it pleasant, and thinks it does him good. Pulse 72, regular.

16th.

He took the lime water, as on the former day, worked a good deal, at some light work, and finds his strength greatly recovered. He perspired a good deal, about the temples; and had a gentle moisture, over the whole body. I examined his skin particularly. About a third part of the whole, has thrown off the old cuticle entirely, and become soft, and healthy. What of the old cuticle remains, has a white dry appearance, as if the pores were rubbed full of chalk. He was formerly very hidebound, but the skin, on the ribs, is now loose, and flexible. A large portion of it can be grasped, between the finger and thumb. At all periods of his life, his gums were very tender, and bled with the least friction, but much more so, since seized with this complaint. He can now rub them with the hardest towel, without producing a particle of blood. Urine, last twenty-four hours, three pints and an half, pretty natural.

Having felt himself so much better, after last blood-letting, he wished the operation to be repeated to-day, not from any apparent necessity; but

by way of ensuring a more complete, and speedy recovery. Supposing that no bad consequences were to be dreaded from the experiment, I readily consented, and took sixteen ounces of blood from his arm, in a full stream. He bore the operation well. Pulse, before bleeding, 72, after it 70, firm, and regular. The blood, on standing a quarter of an hour, became very sizy on the top, more so, than on any former occasion.

17th.

He walked about a good deal yesterday, and was not sensibly better, or worse, for the bleeding. He slept sounder through the night, than he remembers to have done for several months; did not awaken from ten, till six this morning. Urine, last twenty-four hours, not quite three pints, has a very salt taste, and strong urinous smell. I was much gratified to hear, that the same decisive symptom of returning health, and strength, as on the 15th, recurred since last report. The blood, taken yesterday, remarkably inflamed, the buffy coat, thick, firm, and contracted; the crassamentum uncommonly firm, and tenacious, and drawn quite into the form of a globe; the serum pretty abundant, of a white milky appearance, and salt to the taste.

18th.

He worked a good deal yesterday, drank a little through the day, but felt no uncommon thirst. He perspired freely, had a very good appetite, and took some supper; a thing to which he has not been accustomed, for some time past. He slept well, had only to rise once. Urine, last twenty-four hours, a very little more than three pints. Had a headach, since early in the morning, and the temples are painful to the touch. Having been costive for two days, he is ordered a dose of castor oil. When he works hard, he feels a little weakness about the chest, accompanied with some degree of palpitation; but this soon goes off, after resting. Pulse 80.—Has just returned from a walk.

19th.

He took a dose of castor oil, at two o'clock, which operated five times, very copiously, between six and nine in the evening. The first of the stools was of a brownish colour, and fetid, the last were natural, in their appearance. He was very much relieved, by the evacuation, went to bed at nine, slept soundly, and did not need to rise, till six this morning. On getting up, he voided one pound ten ounces, of a brownish coloured urine;

has not made as much at a time, for many weeks, felt no heat, nor irritation in making it, and, had there been any necessity, he could have retained it still longer. Pulse 76, after walking about half a mile to breakfast. He has had no return of the headach, since last night.—He now finds himself pretty able for his work.

20th.

His strength is gradually improving—he was at work, all day yesterday.—The stools, since the purgative, are soft and natural. There is, occasionally, a slight return of the headach. He perspires pretty freely, and takes his victuals well: drank a little water, while at work yesterday; but not more than he used to do, when in former good health. He drinks, daily, three gills of the lime water diluted with common water.

25th.

He has been working, daily, since last report, and is better on the whole, but is easily fatigued, when the work is heavy, or long continued. He drinks, while at work, half a pint of lime water, diluted with three times the quantity of common water. The diet prescribed has been regularly persisted in; but, as he does not like animal food, to supper, porridge and milk is allowed.

No urine has been preserved, since he returned to work; but, to his own observation, it is quite natural, both as to quantity, and quality. Pulse 72, regular.

Oct. 1st.

He finds himself gaining strength daily. Continues to take a gill of the lime water, twice a-day —some days he drinks nothing else. The skin continues soft, the whole of the old cuticle is gone. When at work, there is, generally, a moisture over the body. Had a slight colic, last night, which used to attack him, occasionally, in his ordinary state of health. He does not make water oftener, than in health, nor in greater quantity; but when the desire comes on, it is still more urgent, than it used to be before this disease began. Pulse 72. His tongue is clean, and natural, gums firm, and healthy, his mind is cheerful.—Some laxative bitters, to be taken, occasionally, particularly, when costive.

12th.

He has not been absent, an hour from his work, since the 20th ult. Takes a little of the bitters, and two gills of the lime water, daily. The former keeps him easy in his bowels. He perspires copiously, particularly when at work—appetite re-

markably good—thirst moderate. Makes water, on going to bed, once through the night, and in the morning when he rises, in all, from a pint and an half, to two pints; the urine is in every respect natural. Countenance is lively, and his partiality for conversation has returned. He says he has been stronger, but never in better health, than at present. Desire, and ability for venery, the same as at any former period of his life.

Nov. 26th.

His health, and strength, are completely restored. He has not been an hour absent, from his work; is at least a third stronger, than he was a month ago, and is gradually returning to his former manner of living; but takes a greater proportion of animal food, and drinks, now and then, some lime water. He has taken, almost, no kind of medicine, for some weeks; has little or no thirst, his appetite is good, and his bowels are regular. Pulse 74.

4th Feb. 1808.

He has enjoyed an uninterrupted state of good health, since last report. During October, and November, he carefully avoided the heavier kinds of work, not so much from inability to perform

them, as from a fear of doing himself harm. For the last two months, he has made no distinction, he can lift as heavy a load, or continue as long at hard exercise, as he could do, in any former period of his life. He thinks he has less thirst, when at work, than he had before the diabetic affection. He takes his diet extremely well—has not lost his relish for animal food; but takes it only in a moderate proportion. No medicine has been used, these three months, except occasionally a little of the lime water, for which, he has contracted a partiality. His sleep is sound, and refreshing. The urine is in every respect natural—he never rises above once through the night, and if his rest does not exceed six or seven hours, he does not rise at all. The number of times through the day, is not greater than when in former good health. He has an easy stool, always once, and sometimes twice a-day. The skin is soft, loose, and perspirable—the countenance lively. His mind is clear, and active; and his natural vein for mirth, and conversation, continues.

Observations.

I CONCEIVE this to have been a well marked case of the Diabetes Mellitus; and, in many respects, similar to that of Drummond. They both succeeded cold caught in the spring. The fever, which accompanied the former, was much more severe, than that which attended the latter. Stevenson was confined for several weeks, Drummond was scarcely ever absent from his work. Their recoveries, however, were equally imperfect; they put over the summer tolerably well, but towards autumn, fell off rapidly.

They had both been much accustomed to perspire; but, after the diabetic affection, this left them entirely. They were originally strong, and robust, and had lived with regard to exercise, and diet, nearly in the same manner. When I was first consulted, Drummond made about sixteen pints, of sweet urine, every twenty-four hours: Stevenson made, from twelve, to sixteen, not quite so sweet, as that of the former, but evidently possessing much saccharine matter. An attempt was made to treat them both in the same manner,

and both acquired the same insuperable aversion to animal food,

It has been remarked, that Diabetes is often preceded, and accompanied, with pulmonic affections.—The connection between these complaints was so strikingly marked, in the preceding cases, that the one might be said to be the cause of the other. Dr Bardsley, to whom the profession is much indebted, for his minute investigation of this disease, does not recollect an instance of Diabetes, where it was not accompanied by some affection of the chest.* I was of the same opinion, till I met with the case of Mr J. C.—in his I could not trace the smallest symptom, of a pectoral complaint, in any stage of the disease; nor did it even appear to have been preceded, by any thing of a catarrhal nature.

Swelling of the legs, and of other parts of the body, is a very frequent attendant. Dr Rollo remarks, that œdematous swellings of the feet, and legs, denote the advance of, what has been described as, the last stage of the disease.† Œdema of the lower extremities, may generally attend the last stage, but it also often occurs, in the early part

* Medical Reports. † Rollo, page 69.

of the disease. In Drummond's case, it came on, while he was following his ordinary employment, and before he even thought of taking medical advice. In Stevenson's, it was still more remarkable; before I saw him, both his legs swelled, to an enormous size; and this disappeared, without any treatment. When James Walker was admitted into the Royal Infirmary of Edinburgh, "His feet, and ancles, swelled towards the evening."* The same thing is remarked with regard to John Rodger, when he was admitted into the Royal Infirmary of Glasgow.† This symptom is peculiar to no particular stage of the disease. There are instances, where Diabetes has terminated fatally, without the accession of œdematous swellings.

Some morbid change, in the alvine excretion, always accompanies the diabetic habit. Costiveness is perhaps the most common of these; in some instances, the bowels have been so remarkably torpid, that even the most powerful medicines, in uncommonly large doses, produced but a trifling effect. This torpor was very conspicuous, in the case of a cabinet-maker, who was treated by

* Rollo, page 152. † Ibid, page 169.

Dr Pearson of London.* A similar insensibility of stomach, and bowels, is mentioned by Dr Cleghorn of Glasgow.† On the contrary, there have been cases, where the bowels were very irritable. In Dr Bardsley's seventh case, the patient was alternately seized with diarrhœa, and copious perspiration; during the continuance of either of these, the diabetic symptoms were much relieved.‡ In the present instance, there was evidently a morbid irritability in the intestinal canal; but the quantity of the alvine excretion was inconsiderable. It had also an uncommonly white appearance, and was voided with much pain, and involuntary straining.

Capt. Meredith was troubled with "A singular, painful, and fluttering sensation, in his belly, extending from the situation of his kidneys." Stevenson had also a peculiar affection of the abdomen. When he attempted to run, or even to walk quickly, he felt as if his bowels would drop out. This, together with general lassitude, prevented him from taking, almost, any kind of exercise. After the fifth bleeding these left him, and did not return. There are, perhaps,

* Rollo's Cases. † Ibid. page 245. ‡ Medical Reports.

few cases of Diabetes, without some affection of the abdomen, particularly in the epigastric region.

Bardsley's fourth case, appears to resemble the present one, in having his urine clear, when newly made, and in its becoming turbid, like thick small beer, after standing some time. The substance which rendered the urine turbid, and which afterwards formed the brown sediment, appeared to be a small portion of blood; either secreted along with the urine, or mixed with it, in its passage through the urinary organs. From the homogeneous appearance of the fluid, when newly voided, the former opinion appears to be the more probable. This symptom left him entirely, soon after the commencement of venesection.

Headach is a very frequent attendant on this disease. In some instances, it has been extremely severe; "The very violent headachs, with which the General Officer had been affected, had engaged all attention, and the state of the urine was overlooked; the increase of it was supposed to depend on the quantity of liquids drank, though the headach was imagined to arise from some weakness of, or some fault in the stomach."* With Stevenson,

* Rollo, page 65.

the pain was at times so acute, as almost to deprive him of his senses; he could not compare it to any thing, but a person beating on his head with a hammer, or driving a nail into it. He continued to have less, or more, of this painful affection, particularly on stooping, till the 14th September, when it left him.

The habit of body, which accompanies Diabetes, is, generally, attended with a permanent sensation of cold, in the extremities: in some instances they complain of a burning heat, which is by far the more troublesome of the two. I have known patients complain of cold, through the day, and of heat, through the night; so that they could not, even in cold weather, sleep with the least covering upon their limbs. Stevenson's hands and feet were always cold; on being touched, they communicated a sensation, like the hand or foot of a person that had been sometime dead. The sense of feeling was also considerably impaired. Dr Marshall remarks, that Hinton Liddel's skin "Was dry and rough, of a dirty brown colour, and, almost destitute of feeling. The legs and feet cold, and dead as a stone. The patient took up a strange conceit, that there was no blood remaining in his body, and, with peevishness, in-

sisted there was none."* Abraham Beswick's skin was harsh and scaly, and his finger ends livid, cold, and without much sense of feeling.† Bleeding a patient once or twice, contributes, very much, to bringing about a general warmth in the extremities. I have seldom heard patients complain of cold in their feet, after a second, or third bleeding; even a first, is sometimes adequate to the removal of this symptom.

In point of number, the pulse is very much diversified, in this disease. In the present instance, it had been uncommonly slow. He was desired to compare its quickness, the day I saw him first, when it was 60, with what he had felt it before. He observed, that it was not half so quick, then as now, so that, at that time it, probably, did not exceed 40. This difference might arise, from his being in bed, the one time, and his having walked near half a mile, the other.

On the day after the second bleeding, it was as low as 48: after the third, or fourth bleeding, it rose to about 80, and did not, afterwards, fall below 70. In the most of the cases, related by Drs Rollo, and Bardsley, the pulse was quicker

* Rollo's Cases, page 210. † Bardsley's Reports, page 148.

than natural, ranging from 80, to 130. At one time, during the treatment of Capt. Meredith's case, the pulse fell to 47, in consequence of an overdose of hepatised ammonia.

In the case of a lady, related by Dr Brocklesby, the pulse beat strong, and full, for seven or eight strokes, and then there was a sudden stop, for four, five, six, seven, and once eight, seconds, before her pulse returned. This peculiar symptom, with some other nervous affections, the Doctor apprehends, was removed by assafœtida, native cinnabar, and flores martiales. The Diabetes was cured by drinking alum whey, twice a-day, for six weeks.*

Dr A. J. Schutz gives the case of a butcher, fifty years of age, of a lean habit, and pale complexion, whose pulse beat only 32 strokes in a minute. His complaints had been brought on, by intemperance, cold, and fatigue. At the time he applied, his respiration was rather difficult, his feet cold, and swollen, no appetite, bowels costive, intolerable thirst, skin dry and parched, burning sensation in the bowels, and pressure in the region of the kidneys. He passed about twenty-

* Medical Observations, and Inquiries, Vol. III.

two pints of urine, in the twenty-four hours.* This patient, and three others, were cured, by the use of lime water.

Whether the pulse be quick, or slow, it is generally such, as denotes a very great degree of debility, in the system. In the present case, it was not altogether regular. In Mr C's, it was extremely feeble, varied from 50 to 96, and intermitted once, twice, and sometimes thrice, in a minute.

I visited, sometime ago, a man, who had laboured, several months, if not years, under Diabetes. He was forty years of age, a mason by trade, originally of a very stout make, but had suffered much, about 8 years ago, from a confirmed syphilis. From profuse expectoration, cough, and dyspnœa, he appeared to have pulmonary consumption, joined to his other complaints: he passed, daily, about fifteen pints of urine, of an insipid, or rather sweetish taste, violet smell, and light whey colour. His thirst was insatiable, but it was seldom indulged, to any very great extent. His appetite was much impaired, and he seemed to have lost, almost entirely, the power of digestion. The meat lay heavy on his stomach,

* Medical and Physical Journal, Vol. VIII.

and produced much twisting, and uneasiness, in the bowels.

The pulse was so extremely feeble, that I had some difficulty in ascertaining its quickness. It was about 110, when it beat regularly, but, at times, it vanished into a mere tremour. Next day, there was little difference in the appearance of the patient; but, although he lived three days, a pulse could never be felt, in any part of his body. On the day he died, he sat up eight hours, and walked a few steps to bed, without assistance.

When a variety of articles are used, in treating a disease, it is difficult to ascertain which of them had the principal share, in accomplishing the cure. In this instance, there are five, to each of which it may be partly attributed; the animal diet, the bleeding, the prepared aminonia, the antimonial powders, and the lime water.

The animal diet was first tried, and both the patient and practitioner were disposed to give it a fair trial as the best resource; but, owing to his inability to retain it on his stomach, this was found impossible. He had used it for three or

four days, and found himself altogether unable to proceed, his strength was rapidly declining, and, as he found no amendment in any one symptom, it was necessary to have recourse to something else. The circumstance of his spitting a little blood, supplied a hint, to try the effect of venesection. This was accordingly adopted, and it not only seemed to do good; but it also enabled the the patient to persist pretty closely in the animal diet.

From this time, he began evidently to recover, and I was indifferent, whether the cure was to be attributed to the bleeding, or to some specific action in the animal food. Supposing it by the latter, I flattered myself that a method was discovered, by which the patient would be enabled to proceed, with comfort to himself, and with a tolerable prospect of success.

There is one thing, however, against the hypothesis, that the animal food had the sole merit. In the cases where it has been tried, the slightest deviation was always found to interrupt the progress of a cure, or to produce a relapse, particularly in the early stages of the treatment. In this case, though the bulk of his nourishment consisted of animal food, yet no meal was taken, with-

out a mixture of vegetables. On the whole, I was convinced of two things; that the bleeding gave him a relish for animal food, and that a RIGID adherence to that particular diet, was not necessary to accomplish a cure.

THE CARBONATE OF AMMONIA was tried, from an idea, that it might improve the state of the urine, by supplying what appeared to be defective in the system, and also correct some acidity in the stomach. What share it had, in accomplishing the cure, cannot be ascertained. The quantity used, was between four and five drams. It may be remarked, that some progress was made, before this was tried, and that in instances where it had been given, to a much greater extent, its effects were by no means decisive.

Dr Gerard of Liverpool, in relating Mary Johnson's case, observes, that the carbonate of ammonia, was continued from August, till December, and, for a great part of the time, to the quantity of four drams daily; one half in the form of pills, and the other in solution, saturated with carbonic acid air. It failed, however, for she died on the 13th December.* In a subsequent case,

* Rollo, page 241.

the same author succeeded, in curing a woman, by the use of prepared ammonia, and a rigid adherence to animal food.

THE ANTIMONIAL POWDERS, appeared to have a more decided effect. They produced very severe sickness, vomiting, and commotion in the stomach and bowels. The night after taking these, the urine was greatly reduced, and next day he found himself uncommonly well. On repeating them, they had not such violent effects, nor was the relief obtained, so decisive. The first night, he did not rise, from bed-time, till six in the morning, the next one, he had to rise twice.

But soon after this, the urine was augmented, to more than nine pints, in the twenty-four hours, and again reduced, without their assistance. Any thing which produces sickness, has a temporary effect, in relieving Diabetes, by diminishing the quantity of ingesta. The antimonial powders seemed to possess no other specific action.* During the two days he was under their influence, he vomited every thing, and was not disposed to take either meat or drink, hence when

* In this way, the advantage derived from the use of hepatised ammonia, may be accounted for.

the supply is cut off, the excretion must diminish of course, for notwithstanding the apparent proofs, which have been adduced, that the egesta, in some instances, exceeds the ingesta, I believe, that if it ever happens, it is a rare occurrence.—The whole quantity of the antimonial powder taken, was sixteen grains.

LIME WATER, is perhaps one of the best medicines, in the treatment of Diabetes. But, in this instance, it was not tried, till the cure was nearly complete. He had only taken about four pounds of it, when he returned to his work, on the 19th September. Whatever good it may have done, in other cases, little or nothing could be attributed to it in this. The patient, however, liked it well, and thought he derived benefit from it.

VENESECTION, is certainly the most prominent feature in the treatment. The abstraction of one hundred and eight ounces of blood, in less than two weeks, must have had a decided effect. He experienced relief in his feelings, every time, and even during that profuse evacuation, gained strength. Though I have taken pains to point out, in as precise a manner as possible, the situation of the patient, before and after each operation; yet as the practice is novel, and, to many,

will appear unjustifiable, it may be proper to take a short review, of the whole proceedings.—To shew the influence of pre-conceived notions, on the practice, even of the most intelligent part of the profession, the following is a very striking instance.

Dr Rollo commenced the treatment of Capt. Meredith's case, on the 16th October. In July preceding this, Dr R. requested the Physician, then attending him, to take three or four ounces of blood, and to observe the appearance and taste of the serum, and the spontaneous changes, which would take place, by a few days exposure to the air. At that period of the disease, Capt. Meredith's debility could not be very great, for three months after, though he was said to have fallen off rapidly, of late, still he was able to walk about, and could perform a journey of two miles.* Yet at that time the Physician observed, "That unless he met with a criminal, having the disease, no request, or opinion, could induce him to perform that operation, in such a case."†

This aversion to bleeding was the more extraordinary, for at that time, no probable means of

* Rollo, page 19. † Ibid, page 50.

counteracting the disease were known. Dr Cullen had treated twenty cases; these, and many more must have died, to his knowledge, for he never knew an instance of it cured in Scotland. Dr Currie, whose accurate observation, and extensive knowledge in medicine, are well known, observes, "That he has seen it stopped in its progress, by opium, cantharides, alum, and bark; but after the saccharine impregnation of the urine, he never knew it cured."*

In this instance venesection was employed, in the most forbidding circumstances. The pulse was slow, feeble, and not altogether regular—his strength and spirits were almost gone—the lower extremities, had been œdematous to the haunches, and were always cold and lifeless.—When newly drawn, the blood was extremely dark; on cooling, the crassamentum was found to be as black as pitch, and totally devoid of tenacity. These were sufficient to have deterred me from trying this practice, had I not known from former experience, that many of them were ill founded.

The state of the pulse is a most fallacious guide,

* Rollo, page 167.

in the practice of venesection. A strong full pulse, accompanied with pain, in some particular part of the body, certainly indicates bleeding; but it may often be of service, when the pulse is in the opposite extreme.

The fear of inducing dropsy, by the too free use of the lancet, is in most instances groundless. On the contrary, there are many diseases, accompanied with dropsy, particularly with œdema, where venesection is of the highest service. To such as have never seen, or tried, the practice, this account will appear incredible. I have not often bled in ascites, because this is frequently brought on, or accompanied, with some incurable organic affection; but in recent cases of anasarca, I have seen as good effects from venesection, as from any other practice.

Fears, arising from the rotten discomposed state of the blood, are equally ill founded. Nothing can be a stronger proof of this, than the present case. The blood was pretty much the same, as is generally met with in Diabetes, and seemed to agree with the description given by Drs Dobson, and Rollo. Little change took place in the first three bleedings. The fourth, however, was greatly altered. It had become sizy on the

top, and on cooling, the crassamentum acquired a considerable degree of firmness. The fifth was remarkably inflamed; the buffy coat was thick, firm, and contracted, to the size of a shilling. The coagulum had assumed a globular form, and become so tenacious, that it could be held out upon the point of a probe. The sixth was still firmer, and in addition to former appearances, the serum had acquired a white milky, or chylous appearance. These changes in the blood were singular, and unexpected; but I have seen them often since. I remarked too, that the veins, which, as the patient himself observed, were at first smaller than usual, became more and more turged, and the blood flowed with greater force every successive bleeding.

The effects of this practice, on the general system, were no less remarkable than on the blood. Even the first bleeding produced a degree of hilarity, to which for many weeks he had been a total stranger. After the third the pristine vigour of his mind was completely restored, and his feelings rendered more comfortable. After the fourth, the pulse rose to about 80, became firm, and regular, and some degree of perspiration appeared, on different parts of the body. Still,

however, there was no very remarkable change produced on the urinary discharge. After the fourth, there was evidently a relapse. The fifth seemed to act like a charm. The recovery after this was instantaneous, and striking. The painful sensations in his bowels left him; the powers of virility returned; the gums became sound; the skin soft, and perspirable; the saliva, the urine, and the alvine discharge, natural; in six days he returned to his work; in two months, he was restored to his original strength.

CASE III.

Mr J. C. AGED 23; STUDENT.

September 28th. 1807.

Mr C. is of a thin slender make, middle stature, dark complexion, and has always enjoyed a good state of health, except being occasionally troubled with heartburn, and acidity in the stomach. He imputed these disorders to bile, and supposes, that he inherits them from his mother. He never had a cough, or any complaint in the chest; has been accustomed to play much on wind instruments, without feeling inconvenience.

For two years, previous to October 1802, he was engaged, in a very active bussiness, in London, where he had much walking. Once a quarter, he was employed writing, for several days. This never failed to bring on the acid affection of the stomach, accompanied with some depression

of spirits; but on getting out again, to the open air, these soon left him. On the whole, during that period, he enjoyed exceeding good health.

He has since been several Sessions at Glasgow College. When much occupied, in a sedentary manner, through the week, he felt dull, and languid towards the end of it: if the confinement was severe, and long continued, the acidity in the stomach became so troublesome, that, on stooping suddenly, a little acid matter was, at times, discharged from the mouth. He generally came home to Paisley on Saturday, and returned in the beginning of the week. By this relaxation, and exercise, he felt himself so completely recovered, that he could resume his studies, with renewed alacrity.

From the relief he felt, by taking exercise, in the open air, he generally spent a considerable part of the summer, in going about the country, when he uniformly enjoyed good health. He confined himself more than usual last summer, and was constantly in bad health, accompanied with a weak, peevish, and irritable state of mind. Circumstances, which, in former periods of his life, would have given him no kind of uneasi-

ness, have, frequently, produced great agitation of mind, and even a temporary fever.

His friends observed, that his temper, from being gay and cheerful, had become peevish, and irritable. The society, which never failed to give him pleasure, lost its charms. In the midst of his dearest relatives, he seemed impatient, and embraced every opportunity, of retiring to solitude. Convinced of the impropriety of his conduct, he frequently resolved to act otherwise; but to these resolutions, however frequently, or strongly formed, he found it impossible to adhere.

This change in his deportment, was so slow, and gradual that its commencement cannot be accurately ascertained. It has been observed, less, or more, since the end of January, and may, perhaps, be of a still earlier date.

About six or seven weeks ago, he was very costive, and had occasionally a discharge of semen, on going to stool. For this he was advised to try some medicines, which stopped the discharge, and it has not troubled him since. At this time, he had frequently a distressing pain, but rather like that of lassitude, than inflammation, across the region of the kidneys, particularly towards the left side. This was sometimes

so severe, as to render him, almost, unable to walk. The part was painful to the touch, but shewed no morbid appearance. He has had a frequent desire of going to stool, without being able to procure an evacuation; and even when a discharge was accomplished, the tenesmus remained. It was, generally, after these efforts, that the semen was passed, and the pain about the kidneys was most severe. He feels great weakness, about the joints; walking, up and down stairs, a few times, fatigues him so much, that he is obliged to go to bed. He was always slender; but is much more so now, than formerly.

The tongue and fauces are pretty clean, and natural; but feel very dry, particularly, during the night: the mouth is ill tasted, in the morning, and he coughs up a good deal of tough mucus, from the throat. The gums are red, and spongy, with some ulcerations, and a very distinct purple areola, about the roots of the teeth. He drinks often, but has no very urgent thirst.

His diet has been pretty uniform—tea with bread and butter to breakfast; broth and butcher meat to dinner; tea and bread and butter in the evening; and porridge and milk to supper—his general drink is water. He eats with relish, and

is always ready for his meals; but has no uncommon degree of hunger, nor uneasiness about the stomach, after eating.

For several weeks past,* he has noticed that his urine was more abundant, than formerly; and that he was troubled with an urgent, and frequent desire to make it. In health, he never used to make urine, above once through the night, and often not even that. At present, he finds himself obliged to do it, seven or eight times; and the desire is so pressing, that unless it be instantly complied with, the discharge is, almost, involuntary. The external orifice of the urethra is swelled, and inflamed—the prepuce extends over the glans penis, but there is no phymosis.

Once, in two or three days, generally, when his feet were cold, he was seized with sharp darting pains, immediately behind the glans penis. For the first three or four times, they were wholly on the left side, afterwards chiefly on the right. From his description, they seem to be in the corpora cavernosa penis, and distinct from the urethra. They began about two weeks ago, and did

* On a minute investigation, the change, in the appearance of the urine, and the increased frequency of the discharge, can be traced, as far back, as the month of June.

not, at first, excite much attention. Of late, however, they have become more severe, and continue, occasionally, for the space of ten or fifteen minutes. The body is thrown into a partial perspiration, and they never go off, till the feet be brought to a proper warmth. During these painful affections, the parts exhibit no morbid appearance; the penis is soft, and of the natural colour; and urine can be voided at the time, without either increasing, or diminishing the pain. I have not seen him in one of those paroxysms; but from the account he gives, they seem to resemble, the TIC DOLOUREUX.

The eyes are muddy, somewhat inflamed, and impatient of light; the eye lids are considerably swollen, and uneasy. There is a pain in the orbits, immediately over the eye balls, particularly, on stooping. He used to perspire a good deal, till of late—the cuticle is not very dry, but the skin feels hidebound. Pulse 80, very weak, but regular. He could sleep pretty well, were it not for the frequent micturition.

29th.

He has made near six pints of urine, last twenty-four hours. It is muddy, towards the bottom, and of a greenish colour; destitute of smell, and

insipid. The quantity of liquids, including liquid food, did not exceed six and an half, or seven pints. One scanty stool.—Pulse 84, weaker than yesterday.—A dose of castor oil, to be taken in the afternoon—the urine to be preserved, and the frequency of voiding it to be ascertained.

30th.

He voided urine eighteen times, last twenty-four hours, at nearly equal intervals—the whole five pints. Castor oil produced three copious stools, of a light brown colour, and very fetid. He was extremely feeble, in the afternoon, and scarcely able to walk up stairs—had an attack of pain, in the right side of the penis; this continued very violent, for a few minutes; but went off, on getting his feet fully warmed.—Imagines he brought it on, by staying too long, in the garden; the day was cold and damp—had a very slight attack in the left side, in the morning.—Pulse 88, weak, but regular.

Two pints of urine, afforded one ounce and seven drams of an extract, of the consistence of pretty thick honey—and saltish to the taste. During the evaporation, no urinous smell was emitted, the extract, however, has a little of it.

Though this case is widely different, from the one I lately treated; yet taking all things into account, I strongly suspect, that it has something of a diabetic nature. The quantity of urine, is not considerable, and it has few of the qualities, which mark the Diabetes Mellitus; but the loss of strength, the emaciation of body, the pain across the region of the kidneys, and various other symptoms, which have been noticed, are strongly characteristic of that disease.—To settle this point, I proposed consulting Dr Cleghorn of Glasgow, a gentleman of extensive experience, and in whose talents I had great confidence.

October 1st.

Dr Cleghorn was consulted. After a very minute investigation, of the previous history, and present situation, of our patient, I stated to him my doubts, and apprehensions, concerning the nature of the complaint, and pointed out some of the grounds, on which my fears rested. His opinion, like my own, was by no means decided; at present, however, he was rather disposed to think, that the frequency of the discharge, and altered secretion of the urine, were more owing to some local irritation, in the urinary passages, than to any thing of a real diabetic nature.

It was agreed, that the patient should be kept easy in his bowels, by the use of gentle laxatives, such as, rhubarb, magnesia, and an occasional dose of castor oil; that an opiate should be given, at bed-time; that he should be put on a low diet, and take freely of some diluent drinks, such as, gruel, barley water, &c. If his complaints, should continue, after this practice has been followed, eight or ten days, the uva ursi was to be tried, to the extent of a scruple, three or four times a-day.

In the course of conversation, with Dr C. I gave him a short account of Stevenson's case, and the success attending the mode of treatment, which had been adopted. He observed, that, for some years past, he had modified the treatment, recommended by Dr Rollo, in consequence of the death of some patients, from violent inflammations, soon after their recovery from Diabetes; that only two of his patients were alive; that both of them recovered, without a rigid abstinence from vegetables, and that he considered the risk of inflammation, resulting from animal food, as calling loudly for further investigation, more especially, as the plan had failed more than once; on all which accounts, he heartily concurred with

my views. It was, therefore, agreed, if the present plan of treatment should fail, or the disease take a more decided character, to give venesection a fair trial.

The patient was very much fatigued, with the journey to Glasgow. On returning, the coach stopped at the half-way, he felt little desire to make water at the time; being afraid, however, that he might become uneasy before he got home, he stept out, but after a number of efforts, he could not make a single drop.

2d.

He slept tolerably well—frequency of making urine nearly the same, as on former nights. The urine has the same whey appearance; is quite insipid, and destitute of smell. No stool. Inflammation of the eyes is rather abated; the pain in the back and loins continues; and there is some uneasiness about the pit of the stomach, since breakfast.—Pulse 70, weak.

He is to be weighed to-day—to begin the regimen, and medicines, agreed on yesterday—to keep a regular account of the quantity of drink, and liquid food—the number of times he voids urine, and the quantity made in twenty-four hours.—Powders, each containing ten grains of

calcined magnesia, and the same quantity of rhubarb, with a few grains of anis seeds, were prescribed.

3d.

He took one of the powders yesterday, and a tea-spoonful of magnesia—had two costive stools. Having occasion to go, several times up and down stairs, he was extremely fatigued, in the afternoon, and obliged to go to bed. This lassitude is principally in the small of the back, and loins.—Took an anodyne draught at bed-time, containing thirty-five drops of laudanum, felt warm, and comfortable, through the night, but was obliged to rise nearly as often, as formerly. The mouth was more dry, and parched than usual—he imputes it to drinking gruel, in place of water. He has a slight headach, to-day, as if he had drank too much wine, the preceding evening; eyes more inflamed; tongue white, and foul. These symptoms were all, probably, aggravated by the anodyne. Pulse 78. Drink, and liquid food, of every description, seven pints and a half—urine nearly seven pints.

4th.

He took two of the powders, yesterday, and had a pretty copious, easy stool, in the afternoon.—

Was weighed, and is nine stones nine ounces, including clothes, &c.—Took the draught, at bed-time; but had not such a comfortable night, as the last. Drank barley water. On awaking, through the night, found the mouth always dry, and very ill tasted, and the tongue covered with a tough phlegm.—Pulse 67, weaker than formerly, and not regular. The prepuce has become inflamed and uneasy, since yesterday.

5th.

He took three of the powders, yesterday; had a large, easy stool, in the evening, and a small one, this morning, accompanied with a good deal of flatulence. The draught was taken, at bed-time; he drank butter milk, in place of the barley water, and gruel; the mouth was as dry as formerly, but not so much furred. Prepuce has been carefully anointed, since yesterday, and is better. Pulse 68, weak. The pain in the back is relieved, but the general debility is increased. The urine is still insipid, and has acquired a fragrant smell.

6th.

He took one powder, yesterday, and had two copious, loose stools, in the evening, one this morning; draught at bed-time; slept pretty well; drank water through the night; mouth very dry,

and hard; but not so much covered with the glutinous substance, as formerly. He took dinner and tea, with more appetite than usual. Uneasiness in the back considerably gone.—Thinks himself better, on the whole. Pulse 70.

Two pounds of the urine were put into a pan, and placed over a gentle fire. When it came to the boiling point, a copious, white substance floated on the surface, not unlike the albumen, which rises to the top of whey, when treated in the same manner. This was taken off, and thrown on a filter, leaving the remainder, in the pan, limpid. The evaporation was continued, till it acquired the consistence of treacle. The taste of this extract, very much resembled that of melted, brown sugar, mixed with a little muriate of soda. When a small portion of it was placed upon the tongue, a salt taste was first felt, but after that, a very sensible sweetness was left in the mouth. I obtained one ounce, three drams, and twenty-seven grains, of this substance. An ounce of it, treated with nitrous acid and water, afforded a considerable quantity of oxalic acid.

The white substance, when drained, weighed four drams, and thirty-five grains. It was diffus-

ed through six ounces of cold water, and placed over the fire; after boiling for several minutes, it was again thrown on the filter, and had exactly the consistence, and appearance of hard boiled white of egg, and did not suffer any change, by the last process, except, losing about fifteen grains of its weight.

After the whole of the extract was carefully scraped from the evaporating dish, the vessel appeared clean, and dry; but, next morning, it was all wet, as if it had been dipped in water, though there was no sensible dampness in the place where it stood. On touching it, with the finger, it was found covered with a thickish, brown matter, like treacle.—A piece of linen dipped into some of the urine, on drying, acquired a stiff crispy feel, as if it had been immersed, in a weak solution of starch.

7th.

One of the powders produced two copious, fluid stools, in the evening. He took a short walk, in the afternoon, but was exceedingly fatigued. On sitting down, he fell, almost instantly, asleep. The draught was taken at bed-time; but he did not sleep much, till late in the morning. He perspired a little, over the whole

body. The eyes are less inflamed, he sees objects tolerably well, at a distance; but cannot read, or look steadily, at any small object. Pulse 66, very weak, and intermits once, twice, and sometimes thrice, in a minute. The urine has the same whey appearance, but less of the fragrant smell.

8th.

None of the powders were taken, since last report; yet he has had one copious, easy stool. Barley water was drank, through the day, and the draught was taken, at bed-time. The eyes were bathed frequently, with a weak solution of acetite of zinc; but are as much inflamed as ever. He took dinner, tea, and supper, with a good appetite; slept tolerably well, but was not at all refreshed, in the morning. About a pint of urine, made since morning, has an uncommonly green colour. The pain in the region of the kidneys is abated; but the general lassitude, and weariness, have made rapid progress, within these few days. Pulse 58, very weak, and intermits, five times in three minutes.

Two pounds of yesterday's urine afforded, by evaporation, nearly, the same proportion of albumen, and extract, as on the 6th instant.

9th.

He was troubled with acidity in the stomach, yesterday. Took two tea spoonfuls of magnesia, and had six fluid stools, two of them very copious. No opiate. He was thirsty, and drank a good deal, during the day—not much through the night—slept as usual—very dull, and languid, this morning. The eyes continue inflamed, notwithstanding the use of the collyrium. Urine has more of the sweet, fragrant smell. Pulse 56, weak, intermits, thrice in two minutes.

10th.

Acidity in the stomach continuing to trouble him, he took a tea spoonful of magnesia, after dinner, and had six copious, watery stools. A short walk, yesterday afternoon, fatigued him excessively; he was obliged to go to bed, for the greater part of the evening. Took the opiate at bed-time; slept as usual, and perspired a little. Pulse 68, weak, and irregular; intermitted five times in three minutes. Tongue very white, on the upper side, edges of a bright red. Gums are still more spongy, and ulcerated.

11th.

He has lost two pounds, since he was weighed on the 4th instant. No medicines; two copious

easy stools; voided urine twenty-six times, in all 6 lib.—liquids, 6 lib. 5 oz. He supposes the increase in the number of times, was owing to his taking some hare soup to dinner, yesterday. An involuntary pressure, towards the end of the discharge of urine, which has occasionally troubled him for two or three weeks, was so very considerable last night, that it, generally, brought a few drops of blood. He feels extremely weak, and exhausted, this morning; had to rise eleven times, during the ordinary hours of rest. He perspired a little through the night. Pulse 74, weak, intermits twice or thrice, every minute.

THE urine, made last twenty-four hours, is uncommonly thick, and covered with air bubbles; has a fragrant, agreeable smell; and is perceptibly sweet; a little, made this morning, has the exact appearance, and smell of new whey.

My patient becoming daily worse, I was anxious to try the effect of the uva ursi. Powders, each containing a scruple, were prescribed, one to be taken, three, or four times, a-day.

12th.

Pressure, towards the end of the discharge, was very severe, the whole of yesterday. On taking

the opiate, at night, it was relieved considerably; the frequency, however, was not diminished. Two easy, natural stools; slept pretty well, but was much fatigued, by the frequent rising; mouth very parched. Took three powders of the uva ursi, but felt no effects from them. Made urine twenty-seven times. Pulse 84, weak, intermits three times in two minutes. The soreness in the back, and loins has returned.

A BOTTLE, which contained 160 drams of pure water, when filled with the urine, made last night, weighed 165 drams, consequently its specific gravity, is to that of water, as 1031 to 1000.

Thirty-two ounces of the urine, when evaporated, yielded 18 drams of extract, partly albuminous, and partly saccharine, of the consistence of thick granulated honey. When the albumen is allowed to remain along with the extract, it seems to cover the saccharine substance, so as to prevent its being discerned, by the taste. The presence or absence of this albuminous matter, probably constitutes the principal difference, betwixt the Diabetes Mellitus, and the Diabetes Insipidus. Whenever the urine has much of the green whey colour,

it always contains albumen, and is, probably, very little different from the serum of the blood.

13th.

The pain in the region of the kidneys was very severe, particularly, towards the evening. He can take no kind of exercise, without increasing it. Though doing nothing, he felt so much exhausted, that he was obliged to go to bed, in the afternoon. Took three of the powders of uva ursi. The draught, taken at bed-time, had less influence, on the pressure, than the night before. Four copious watery stools. He was weighed this forenoon, and has lost near a pound, since the 10th.

From the first till the thirteenth, the times of voiding urine gradually increased from eighteen to twenty-seven. The greatest quantity of liquids, taken in one day, was eight pounds nine ounces; the least quantity, five pounds fourteen ounces; the average, about six pounds and a half. The greatest quantity of urine, made in one day, was eight pounds three ounces; the least, five pounds seven ounces. On one day, the urine equalled the whole liquid ingesta, on another, it exceeded it, by five ounces.

Having reluctance to the powders, and finding himself getting daily weaker, and in every other respect worse, I determined to change the treatment, for that, which had been so successful, in the case of Stevenson. At present, however, circumstances, were most inauspicious. The pulse 84, and not only so weak, that it could scarcely be counted; but it also intermitted, at least twice, or thrice, every minute.

Sixteen ounces of blood were drawn from the arm; he bore the operation well, sat up, and did not feel the least faintish. About a quarter of an hour after, the pulse was 72, weak, but did not intermit. The blood, on standing a few minutes, became streaked with blue; soon after the red disappeared, almost entirely.

14th.

He continued much the same, as on former days; took a tea spoonful of magnesia, in the afternoon; had four copious, watery stools, in the evening. Slept pretty well; mouth not quite so dry; he drank only a few ounces of water, through the night. Pulse 74, has now and then a weaker beat, but does not intermit.

The blood, taken yesterday, has acquired a thin buffy coat, not thicker than a piece of scarf skin.

The crassamentum below is black, and devoid of tenacity; proportion, between the crassamentum and serum, is natural.

I took sixteen ounces of blood from his arm. He sat up during the operation; towards the end, he became a little faintish, but on lying down it went off. Immediately after the bleeding, the pulse was 65, and did not intermit. In ten, or fifteen minutes more, it rose to 70, and was regular. Considerable inflammation around the wound made yesterday. Stevenson complained more of this, than people usually do, after blood-letting. Is it owing to a particular habit of body attending this disease?

15th.

He slept as usual, had no stool. Mouth not so dry, but very ill tasted. Inflammation of the eyes gone, as also the pain in the region of the kidneys. Pressure, towards the end of the discharge, very troublesome, but not accompanied with blood. His appetite is good, takes his usual diet, and it agrees with his stomach. Pulse 80, regular.—He lost eighteen ounces of blood, sat up, and was not the least faintish. Walked about afterwards, and remarked that his spirits were uncommonly good. In about ten minutes after

bleeding, the pulse was 75, regular, and firmer, than at any former period. A tea spoonful of magnesia, to be taken in the afternoon.

THE blood, taken yesterday, has more of the inflamed appearance, than the first. The buffy coat is thicker, and a little turned up at the edges. The whole of the crassamentum is more tenacious; it can be lifted by a probe, nearly out of the serum.

16th.

He ate beef steaks to supper, and took the draught at bed-time, but had a very restless night; did not sleep till after four o'clock. In the early part of the night, the mouth was covered with a tough disagreeable phlegm; towards the morning, it became dry, and hard. One scanty stool. Thought himself better, in the morning, but took steaks again to breakfast; has been very sick since, and obliged to go to bed. Blood, taken yesterday, still more inflamed, than any of the former; the buffy coat is of considerable thickness, and contracted to the size of half a crown; the crassamentum so tenacious, that it can be lifted out of the serum, on a probe. Pulse 80, no intermission.

17th.

A tea spoonful of magnesia produced two easy stools, after which the sickness went off; took the draught at bed time; slept tolerably well, and is better this morning. Pulse 70, intermitted twice, in three minutes. Tongue clean; mouth, in general, more moist than formerly, but very ill tasted.

Eighteen ounces of blood were taken from the arm, and though he sat up, he did not feel the least faintish. About twelve or fifteen minutes after the operation, the pulse was 80, and did not intermit. The blood, on standing a few minutes, became sizy, and nearly of the colour of starch. The first orifice, from which the blood was taken, has become more inflamed, the others have healed up, nearly in the usual way.

18th.

Two tea spoonfuls of magnesia were taken in the evening, and the draught at bed-time. He had seven watery stools, through the night.—Urine has acquired a little of the proper smell, has rather a salt or bitter taste, and deposits a white sediment, on cooling. Pulse 78, firmer than formerly; does not intermit. Straining, towards the

end of making urine, has not been troublesome, for the last twenty-four hours.—Slight headach to-day. The reddish, purple margin of the gums, is nearly gone. Tongue white, and foul; mouth very dry.

The blood, taken yesterday, is very much inflamed—crassamentum drawn into the form of a globe—buffy coat thick, firm, turned up, at the edges, and contracted to the size of a shilling. The crassamentum can be lifted out of the serum, by a probe.

19th.

He had one easy stool, yesterday forenoon, and was able to sit up all day. The pressure, after making water, is considerably abated. He took only half of the draught, and rested tolerably well. He bled a little, at the nose, yesterday, which has seldom occurred to him before. Pulse 78, does not intermit. Sixteen ounces of blood, were again taken from the arm, he bore the operation well, and the blood had the same sizy appearance, as on the 17th. About ten minutes after blood-letting, the pulse was 75, firm and regular. Having suffered, by the surfeit of beef steaks, on the 16th, he has lived more sparingly since, and finds himself better.

20th.

He had rather a comfortable day, yesterday. The draught was taken at bed-time, and he slept pretty well. The mouth was not so dry, and ill tasted, nor the tongue so white, as formerly. Two easy stools this morning. Pulse 78, regular. Eyes completely recovered; mind cheerful; can apply to reading. He is, on the whole, better to-day, than he has been at all.—Blood, taken yesterday, is very much inflamed; buffy coat thick, firm, and contracted.

21st.

He felt tolerably well, through the day, till the evening, when the pressure returned, and was very troublesome, for some hours. The draught always relieves the straining, for a time, but last night he imagined it increased the frequency of micturition, and made him restless. No stool.—The urine has still the same whey appearance, insipid, or sweetish taste, and deposits a copious white sediment. Pulse 80, regular.

Feeling some disorder, and oppression, about the stomach, an emetic, consisting of a scruple of ipecacuanha and two grains of tartarized antimony, was ordered, in the evening.

22d.

The emetic was taken, at seven, and began to operate powerfully, in about fifteen minutes. The matter first thrown up, was extremely acid, towards the end, it became bitter. In an hour after, it purged copiously, and occasioned a good deal of fatigue. He rested pretty well, during the night; did not make urine so often as formerly, but, owing to the disturbance, occasioned by the emetic, neither the quantity, nor the frequency, were ascertained. He is very weak to-day, but comfortable, and easy. Pulse 80, regular. Ordered pills of prepared ammonia, as prescribed for Stevenson.

23d.

He has had no stool; felt weak, through the afternoon; the pressure becoming very severe, towards bed-time, obliged him to take the opiate. He is stronger, and more comfortable to-day; appetite very good; the quantity of urine is not above natural, the quality, however, is little altered. Pulse 74, regular.

24th.

He had an easy stool in the evening; draught at bed-time; slept pretty well; is still stronger;

has been taking twelve pills daily. Pulse 72, regular.

25th.

He has, for four days, confined himself, almost entirely, to animal food. The frequency of micturition, has increased so rapidly, within the last twenty-four hours, that he could keep no reckoning of it. The draught was taken at bed-time. No stool, though he has taken two or three spoonfuls of magnesia. Pulse 74, weak, but does not intermit.—I took eighteen ounces of blood from his arm, he bore the operation well—blood has the same sizy appearance as formerly.

26th.

A dose of castor oil, produced two easy stools, in the evening, and one to-day. He has made urine, about once every half hour, since last report. Pulse 74, regular. He took the anodyne at bed-time and had rather an easy night. He is stronger to-day, and thinks himself better, were it not for the frequency of making urine, and the pressure attending it.—The blood taken yesterday has the same inflamed appearance as formerly.

The following is a statement of the frequency of micturition; the quantity of liquid ingesta, and of the urine, since the 12th inst.

Day.	Liquids. lib.	oz.	Urine. lib.	oz.	Times.
13	6	8	6		27
14	6	1	5	6	25
15	6	2	4	9	23
16	6	2	4	6	28
17	6	2	4	8	25
18	7	4	4		24
19	6	8	4	8	25
20	7	8	3	14	21
21	6	4	4	8	27
22					
23	5	6	3	4	22
24	6	3	3	5	25
25	7	2	5		
26	6	8	4	4	

Supposing that the frequency, and distress in making urine, might arise, in some measure, from an irritable state of the urethra, different injections were used; aqueous, oily, mucilaginous, astringent, anodyne, as also fomentations to the perinæum.

28th.

The injections seemed rather to increase, than relieve the distress. Warm fomentations gave a momentary ease, but did not diminish the frequency. Refering the uneasiness to the neck of the bladder, I resolved to try the effect of a blister on the perinæum.

29th.

The blister has done well; he thinks himself rather better. Though the pressure is not by any means removed, the number of times is diminished, to about once an hour.

31st.

The pain continues nearly the same as before. The blister, having ceased to discharge, was ordered to be renewed. The quantity, and quality of the urine, for the last five days, have been very much the same as formerly. The pulse has ranged from 68, to 76, and been regular.

1st Nov.

The blister was kept on nearly twenty-four hours and produced a very copious discharge. The pressure has been relieved a little, but the frequency is increased: he made urine about thirty-six times, in all five pounds eight ounces—liquids, six pounds ten ounces. Urine quite insipid, it

has also the same whey appearance as formerly, and little or no smell. Appetite continues good, but his strength is still declining.

3d.

Discharge from the blister diminished; pressure and frequency as great as ever. The anodyne has been increased to sixty drops, and has always the effect of removing the pressure, for a few hours; but never lessens the frequency. He awakes every half hour, or oftener, through the night; feels a sense of distension in the bladder, as if he had an immense quantity of water to make; though it seldom exceeds two, or three ounces at a time.

He never had pain in the urethra, at the commencement, during the emission, nor after the urine was wholly discharged. The pressure comes on with the contraction of the bladder. From its bringing the abdominal and thoracic muscles into action, it resembles labour pains, or that pressure, which accompanies dysentery.

The case has become very perplexing. Phlebotomy has so far succeeded, but it seems inadequate to accomplish a cure. The intermission of the pulse is removed. The gums have become sound, and healthy; the discharge of blood, after

voiding urine, has disappeared; the energy of his mind is completely restored; the urine is diminished, to about the ordinary quantity; the pain and weakness in the back; the inflammation of the eyes; the foulness of the tongue and fauces; the heat and dryness of the mouth are all removed, or much alleviated; still, however, the disease is not by any means subdued.

The blood has gone through the same changes, as in the case of Stevenson. What alarmed me, in his case, became a source of hope in the present. I flattered myself, that although the blood gradually became more inflamed, it might possibly be followed by the same happy consequences. The patient was willing to do any thing, but though I saw most of the symptoms returning, and some of them highly aggravated; yet I could not proceed further, I therefore resolved to try the effect of a rigid adherence to animal food.

9th.

He has used animal diet, with little, or no deviation, and does not feel much reluctance to it. The distress, however, is not in any respect relieved; he is obliged to make water at least every half hour. Notwithstanding the anodyne, the pressure for ten hours a-day, is very severe,

He has been little out of bed, since last report. The pain in the back and loins has returned. His mental energy is fast declining, and though he bears up with great fortitude, and is resigned to his fate; yet his bodily distress is almost insupportable.

I met with Dr Cleghorn, by accident; related to him what had been done, and the deplorable state in which the patient still remained. It was agreed to try the effect of a more powerful anodyne. A draught, containing an hundred drops of laudanum, was to be taken at bed-time, and to continue the animal diet.

11th.

He grows worse, and worse. Even the increased anodyne produces but a few hours alleviation of his distress. Pulse 68, has become very weak, but is still regular. Made urine, from fifty, to sixty times, last twenty-four hours, in all about five pounds eight ounces; of a greenish whey colour, nauseous taste, strong disagreeable smell. The appetite is good; he has no difficulty in persevering in the animal diet, but derives no advantage from it. His thirst is considerable, he drinks chiefly water, but takes only a mouthful at a time. The bowels have been regular, at times inclining

to diarrhœa. He has taken no medicines, except a few of the ammoniated pills, they seem to relieve an uneasiness, which he sometimes feels in the stomach. He has been very little out of bed, these three days. Back so very weak, that he cannot sit upright, for any length of time.

I HAD all along imputed the urgent desire, and frequency of making water, to some preternatural stimulus in the urine; but how that produced the effect, I was at a loss, to form even a conjecture. If the urine possessed any preternatural stimulus, it ought to give some uneasiness, during its accumulation in the bladder, or on its first entering the urethra, but it does not; he is then as easy, in that respect, as any other person. The desire does not seem to arise from irritation; but from simple distension of the bladder. He has little power in restraining the discharge, after the desire comes on; but the passage of the urine, through the urethra, gives no uneasiness.

The pain is occasioned by an involuntary effort to discharge the last drops of the urine. It commences, and increases, with the contraction of the bladder. By anticipating the desire, the pressure is less severe, than when he waits, till

the discharge becomes involuntary. This causes him to make urine oftener, through the day, than absolute necessity requires. At night, he suffers most from the pressure; for, when asleep, he does not awake, till the desire becomes urgent. Anticipating the desire, even half a minute, often saves him a good deal of pain.

The pain seems to arise, from a peculiar action of the bladder. This action seems to resemble that of the uterus, in expelling coagula, which only possess the stimulus of bulk. I suspect, that the diabetic urine has changed the action, and probably diminished the capacity of the bladder. Dr Pearson found, that the bladder of Edward Ford was much thickened. Ballonius mentions, particularly, that the bladders of patients, who have died of this disease, are sometimes, not only thickened; but also diminished in their capacity. The above opinion is farther corroborated by the effect, which diabetic urine produces on the prepuce. I have seen, in a late case,* that the prepuce, from being able to allow the glans penis to pass easily, was so far reduced by disease, that the urine could only distil

* See Case IV.

as from a capillary tube. If a similar change has taken place in the action and capacity of the bladder, it readily accounts for the principal phenomena of the present case, and shews that the disease can only be removed by curing the diseased habit.

I suspect, that I perceive our error; but the discovery is perhaps too late. While, on the one hand, we have been endeavouring to restore the balance by venesection; on the other, it has been as effectually destroyed, by the constant, and too great supply of new chyle. Abstinence is probably as necessary a part of the treatment, as venesection. In Stevenson's case, it was not necessary;* but there, perhaps, the balance was not so completely lost. Besides, he possessed a much more vigorous constitution, than the present patient, and could probably surmount greater difficulties.

Blistering over the kidneys might perhaps have been of service; it is probable they are in a high

* The author was not so fully aware of the importance of abstinence, at the time he treated Stevenson, yet even then, it was found necessary, to restrain the patient's diet, after the 12th September. Though little was attributed to this circumstance, farther than the immediate relief, it afforded to his stomach, and bowels, it probably had no small share, in accomplishing the cure.

state of irritation. This indeed is evident, from the pain, heat, and weakness, in that quarter. When the intestinal canal is in the same irritable state, from an unnatural stimulus, as in dysentery, blisters are often of great utility.

If the morbid secretion of urine were corrected, it is probable, the bladder would relax to its former dimensions, and take on its natural action; in the same manner as phymosis goes off, without any local application, when the original disease is cured.

According to my present view of the subject, the treatment ought to be venesection, low diet, and blistering; we have been led into our present error, by adopting half measures; by a fear of abandoning, altogether, the animal diet.

Being anxious to give my patient, as I thought, the only remaining chance for life, I wished a consultation with Dr Cleghorn, that I might lay the whole plan and reasons before him, and have his opinion. The suggestion was readily agreed to.

12th.

On a consultation with Dr Cleghorn, it was agreed to give the blood-letting a farther trial; to apply a blister, first over the one kidney, and then

over the other; to adopt a rigid course of abstinence; and to continue the anodyne, as necessity may require.

While Dr Cleghorn was present, sixteen ounces of blood were taken from the patient's arm; he bore the evacuation well, and did not feel at all faintish; on the contrary his feelings were relieved, and he felt more cheerful. The blood, after standing an hour, shewed a good deal of the buffy coat, but not so much as last bleeding; the crassamentum, however, was still firm, and could be lifted out of the serum, on a probe.

13th.

He has been much in the same state, as on former days; pressure having returned in the evening, he was obliged to take the anodyne. He has made water every half hour, through the whole night, and still oftener through the day. The anodyne relieved the pressure, for a few hours. Pulse 64, regular. For these eight, or ten days, he has confined himself, wholly, to an animal diet; his appetite has been good; but the change seems to have had no effect, either with regard to the quantity, or quality of the urine. The animal food is to be given up, and a low diet substituted. Last night the urine amounted to

five pounds and a half; when newly made, it is exactly like whey, but on cooling, it desposits a white, albuminous matter, and has the same smell as formerly. If the upper portion be poured off, cautiously, the bottom of the vessel is covered with a white substance, not unlike pus.—A blister, about the size of the hand, to be applied to the left kidney.

14th.

The pain having returned, he took the anodyne at bed-time. Blister has done well, a large quantity of serum was discharged, from the vesicle, leaving the surface covered with a thick substance, not unlike jelly. He has been better, since the morning. Frequency of making water, quantity and appearance, the same as formerly.

15th.

Blister continues to discharge very well. He took the anodyne, at bed-time, and did not need to rise quite so often, only about once an hour, and at one time, in the morning, it was an hour and a half, which is a longer interval, than he has had, since he was at Glasgow. Took about fourteen ounces of blood from his arm, and ordered him to adhere, most rigidly, to the antiphlogistic diet. No animal substance, except

in the form of jelly, indeed nothing but the weakest of food, and in very moderate quantity. Ordered a pretty large blister, over the right kidney. Discharge from the other abated.

16th.

Yesterday afternoon he went to bed, and slept two hours and a half, without needing to rise. He had not much of the pressure, but thought it prudent to take the anodyne, at bed-time. Pulse 68, and regular. Buffy coat of the blood taken yesterday is thick, and drawn into the size of a shilling; the crassamentum is remarkably firm, and the serum has a turbid, milky appearance.

The blister was not applied, till about two this morning, and is not yet removed. The frequency of making urine rather abated; he has sometimes an interval of an hour and a half. An easy stool has been procured daily, by taking a little magnesia. He has not had much uneasiness through his body, except from the pressure, since the first bleeding. These two days he has felt more cool, and comfortable, than for many months past. The diet agrees well with him.

17th.

Blister has done remarkably well; he had an

easy night; did not need to rise, above twice, in three hours. Awaked two different times, at the end of an hour, with a desire to make water; the desire, however, not being so urgent, as on former occasions, he lay still a few minutes, and fell asleep again. This is very different from his former condition. He is more cheerful to-day, than at any period of the disease. The urine, last twenty-four hours, about four pounds; has the same whey appearance, but on cooling, deposits no sediment whatever. A small blister, to be applied to the left side, a little higher up, than the first. Pulse 66, regular.

18th.

Blister was applied, last night at twelve o'clock, and has not been taken off. Finding little, or no return of the pressure, in the evening, the anodyne was omitted; yet he slept well, and did not need to rise above twice, in three hours. Pressure has not returned to day. The urine, though he drank the same quantity, is only three pounds eight ounces. It has rather a urinous smell, bitterish taste, and is completely free of sediment. Blisters continue to discharge, particularly the second. Pulse 72, regular. Has had no thirst. To remove some acidity in the sto-

mach, two tea spoonfuls of magnesia were taken, which gave him three pretty copious stools.

19th.

He did not sleep quite so well, as on the former night; omitted the anodyne; has had no return of the pressure; frequency much the same as last report. Urine three pounds eight ounces, pretty limpid, and has a urinous smell. He took tea, and barley bread to breakfast; calves' feet jelly, with a little sugar and cream to dinner; sowens to supper, but all in very moderate quantity. Another small blister to be applied behind the first. Pulse 70, regular. He can now resist the inclination to make water, for a few minutes, without any great effort.

20th.

He has had a good night; made urine only twelve times, last twenty-four hours, in all two pounds fourteen ounces, of a strong urinous smell, and salt taste; liquids five pounds four ounces. Had an interval of three hours and a half, after which he made six ounces of urine. Pulse 78, regular, and stronger than it has been, at any period of the disease. No stool. Sixteen ounces of blood were again taken from his arm, he bore the evacuation well, and felt lighter, and

more cheerful afterwards. Blood, on standing about ten minutes, became very sizy on the surface, which was nearly of the colour, and consistence of starch. Urine to be preserved for evaporation.

THE improvement for the last eight days is very remarkable. The number of times is reduced, from above fifty to twelve. The pressure, though the anodyne has been omitted, is gone. The urine has become more natural in its appearance, and is diminished in quantity, from five, or six pounds, to something less than three.

Thirty-six ounces of the urine made yesterday, yielded, by evaporation, nine drams, and forty-three grains of extract, partly albuminous, but of a strong saline taste, and urinous smell. When the urine came to the boiling point, flakes of albumen floated here and there, but in much less proportion, than on any former occasion.

21st.

He has had a good night; slept well, and made water only ten times, last twenty-four hours; in all three pounds; liquids five pounds five ounces. No pain, or uneasines whatever. 'Had an interval of four hours, in the morning, after

which he voided, eight ounces of urine. The blood, taken yesterday, is remarkably inflamed; buffy coat very thick, fringed, on the edges, and drawn into the size of a shilling.—His health is still better. Pulse 78, regular.

22d.

He slept very well, made water seven times, last twenty-four hours, in all, three pounds four ounces, of a pretty natural appearance, and strong urinous smell. Liquids five pounds three ounces. He had one stool, yesterday, and another to-day. After an interval of four hours and a half, he made nine ounces of urine, at once. His health is rapidly improving. Pulse 70, firm, and regular. He has felt no uneasiness, in the region of the kidneys, nor pain, nor pressure, these three or four days. No medicines have been taken, since the 12th, except a little magnesia, to keep the bowels open. Another small blister to be applied to the right side, a little above the former.

23d.

He has had no return of the pressure, but the times of making water have increased to ten, and the quantity to something more than four pounds eight ounces. It is nearly transparent, and has a

slightly urinous smell, and rather insipid taste. He found himself very well yesterday forenoon; went to the dining-room, took dinner, tea and supper, with the rest of the family; ate and drank more than usual; liquid ingesta, alone, six pounds two ounces. Took some magnesia, and had four stools. Blister has done well. Pulse 70, regular. He was desired to stay in his own room; and to keep more rigidly by the low diet, and to drink sparingly.

24th.

He had a very good night; made water only six times, last twenty-four hours, in all three pounds, of a higher colour than any formerly made, and saltish taste. He had one interval of five hours, and another of five hours and three quarters. Liquids, which include his whole nourishment, except a little bread, four pounds eight ounces. His mind is as lively, and vigorous, as at any former period of his life. The restoration of mental energy is, perhaps, no less a symptom of recovery from this formidable disease, than the diminished quantity, and improved appearance of the urine. Pulse 70, regular.

25th.

He made urine six times, in all three pounds.

Liquids four pounds six ounces; slept well; had an interval of six hours, from two till eight this morning; his strength recovers gradually. Pulse 70, regular. No stool. A small quantity of beef tea to be added to his diet.

26th.

He had a good night; did not make water from twelve, till near seven, when he made fourteen ounces at one time. The whole quantity, last twenty-four hours, two pounds twelve ounces. Liquids four pounds six ounces. All the blisters are nearly dry, except the one last applied. He took the beef tea to dinner, yesterday, and felt no bad effects from it. Had an easy, natural stool, this morning. Another blister to be applied to the left side. Has no complaint whatever, except weakness. Pulse 74, regular.

27th.

Had a very good night; slept well; did not rise from two, till half past nine; made water five times, in all three pounds. Liquids, five pounds six ounces. Felt a little thirst, yesterday afternoon, but none during the night, or this morning. Pulse 74; strength still improving.

28th.

Blister has done well. Made urine five times,

in all, two pounds ten ounces, nearly natural, both in smell and appearance; had an interval of seven hours and a half; liquids four pounds eight ounces. One easy stool. Took a little butter, in place of jelly, to his bread, at breakfast and tea. He can now read, and attend to a subject, from morning till night, without feeling exhausted, or fatigued. Pulse 70.

I took six ounces of blood from his arm. It was drawn in a full stream, and had a very florid healthy appearance in the cup. On standing a little, the surface became of an uniform purplish hue: (not streaked as at first) gradually becoming lighter and lighter, till it assumed the exact appearance of dissolved starch, or thin flour paste; the red having disappeared entirely, except among some air bubbles, on the side of the cup. He is to take four ounces of lime water, three times a-day.

29th.

He took the lime water, and felt a very keen appetite towards the evening; could hardly restrain himself, from eating more than his allowance; slept well; had an interval of seven hours and a half, made water five times, in all not quite three pounds. It is still more urinous in smell

and appearance. A quantity made this forenoon, is almost as limpid as common water; some very small threads of mucus floating in it. Liquids five pounds four ounces.

His strength is greatly improved, yesterday afternoon, and this morning, he went through his dressings without feeling the least fatigue. The blister on the left side being healed up, a new one is to be applied. He had an easy, natural stool. No thirst. Pulse 72.

Dec. 2d.

The blister has done well; but the part where it was applied has become extremely itchy. This was somewhat the case with the last one, but not with any of the former. His appetite being very good, the quantity of nourishment was increased, without any bad effect. Urine, generally, about three pounds, and as nearly natural, as can be ascertained by the taste, smell, and appearance. Has an interval, every night, of about eight hours. He made to-day, twenty ounces of urine at once. Voided water only five times, last twenty-four hours. Pulse 72, firm and regular.

4th.

He took an airing in a carriage, yesterday; felt agreeable, and was not at all fatigued; takes a

good deal of exercise within doors; plays upon the violin, and was never in better health or spirits. He used to have a dry, ill tasted mouth, through the night, but has had nothing of that kind, these last eight days. Takes no drink, except at meals; appetite continues uncommonly good; he thinks he has been the better of the lime water; takes a pound daily, and has had no acidity in the stomach, since he began to use it.—Pulse 70.

6th.

He took an airing in a carriage, yesterday afternoon; rode about ten miles; felt agreeable, and refreshed; appetite very good; bowels regular, an easy natural stool, always once, and sometimes twice a-day. Urine, within a few ounces of three pints daily, sometimes more, but oftener less. Strength so much recovered, that, if to-morrow be a good day, he intends to take a short walk. Blisters are entirely whole. Pulse 72.

9th.

He went to Glasgow, yesterday, dined, drank tea, and returned in the evening; stood the journey very well. To-day he walked about half a mile, stopt a little in a friend's house, and returned; continues to take the lime water regularly; appetite very good; urine, uniformly about three

pounds. He voids it generally five times in twenty-four hours.

28th.

He was weighed to-day, and is nine stones three pounds, which is an increase of about six pounds, since the 13th October. At that time, however, he had not reached his minimum; so that the increase, since the 18th or 20th November, when he began evidently to recover, may be twice that number, or more. He is now in the possession of health. His strength is not quite what it has been; but it improves daily.—He can walk four, or five miles, without feeling fatigue.—To-day he proceeds to Glasgow, to resume his studies at the University.

In the prosecution of this subject, one of my principal objects has been, to obtain a correct history of the distemper, from its appearance, to its termination; and to distinguish the progress of the disease, from the action of remedies. In this point of view, the following communication, in the patient's own words, will be read with interest.

MR C'S STATEMENT.

DEAR SIR,

TILL you examined the symptoms, I was not aware, that any such disease was upon me; yet from several incidents, I have reason to believe, that it had begun some months before the state of my health attracted much attention. Many circumstances must, consequently, escape me, and many more would have been forgotten, had not your enquiries recalled them to my memory. But if it be difficult, at this distance of time, to trace the gradual decline of animal strength, it must be much more so, to trace that of mental energy. Nothing, could induce me to make such an attempt, did you not assure me, that you considered that state of mind, which I described to you, as a concomitant of the disease, and the removal of it, a symptom of convalescene.

I formerly told you, that, from my earliest youth, I had been somewhat subject to acidity on the stomach, and that the only preventive, or

cure, which I had found for it, was exercise in the open air. Till within these few years, first from the natural activity of the school-boy age, and afterwards from my employment in business, I have been naturally led to take that exercise, without thinking of the advantages attending it; but since I commenced my studies at the University, I have felt the necessity of regularly devoting several hours a-day to this purpose. And if, at any time, I may have been confined to the house more than usual, I soon began to feel the acidity on my stomach, accompanied by an unusual irritation, and heaviness upon my spirits. These feelings, however, a walk of a few miles into the country always removed.

The first thing, which I remember unusual in the state of my health, was the permanency of these disagreeable feelings, in spite of the exercise which I took to remove them. I began to observe this, I think as early as the month of February. I cannot now say whether the acid on my stomach was permanent or not, it certainly did not increase, or I would have been obliged to pay more attention to it. I persisted in taking my usual exercise, nay increased it, hoping by this means to shake off that languor which hung upon

me. During the whole of last spring, I was obliged to rise, once or twice during the night, a thing which, although it excited little attention, was new to me. But at this time the principal effect was produced upon my mind.

One of my brothers when a child, being afflicted with worms, became so timid as to be terrified, when domestic animals, with which he had been very familiar, approached him; and he often shed tears when he could give no reason for it. It was an effect somewhat similar to this, which my distemper produced. I did not indeed feel any of that timidity, which I saw in my brother, but my mental vigour was gone. I was irritable, but not irascible (if I may be allowed to make such a distinction) not prone to anger, but easily hurt. Trivial circumstances, which, in my ordinary health, would either have passed unheeded, or produced a slight degree of uneasiness, overwhelmed me with grief. Once, at a dinner table, some incident occurred to my remembrance, and all my exertions could not prevent me from shedding tears. I was thus in a continual state of dejection, unhappy without being able to account for it. I fancy, that at this time, I might be said to have fine feelings; for I suspect, that a sensibility

which unfits a man for the common duties of life, proceeds oftener from disease, than those who value themselves upon it would be willing to allow. This unhappiness naturally produced a change in my deportment. When nothing particular interrupts it, I enjoy a regular flow of good spirits, and my natural disposition leads me to be fond of society. But, in the course of last spring, I became partial to solitude; which partiality, afterwards, increased to so extravagant a height, that I found myself under a painful restraint in the company of my most intimate friends, and often used to wander out, after it was dark, and steal into some retired spot, satisfied when I found myself secure from intrusion. In company, I was inclined to silence, and impatient of pleasantry, even among others.

There is another circumstance, marking the decay of mental vigour, deserving of notice. Except the hours which I devote to recreation, most of my time is spent in writing, or reading. I formerly mentioned, that close confinement tended to accumulate bile on my stomach. Now, I have often had occasion to observe, that this effect was increased, if the confinement was accompanied with much mental exertion; but I do not remem-

ber being obliged to discontinue any exercise in which I might be employed, unless, perhaps, by a fear that the exertion, too long protracted, would injure me afterwards (which was sometimes the case) or by a stomach ache, which frequently attacked me. But at the period, of which I have been speaking, I could never continue employed in writing or reading above an hour and a half, or two hours in succession. If I endeavoured to persist, I became restless, and uneasy, my ideas became confused, and I was often obliged to throw myself idle, although that was sometimes very inconvenient.

Nothing further worthy of remark occurred, till I went to the sea coast, which I think was in July, except that, during this period, I became less and less capable of bodily exertion. When I went thither, I endeavoured to drive away that dejection, which still haunted me, by entering into all the amusements, which presented themselves. I continued to do so for about a week, but I was obliged to desist. I thought that this week's exertion hurt me a good deal, for soon after, I found that a very little exercise fatigued me excessively. While I remained there, I twice observed that, in the effort to obtain an evacuation of fæces, a little semen

oozed from the urethra. I bathed the parts in sea water, which I thought removed that symptom, at least for some time. The frequency of making water continued, and increased. I never correctly reckoned the number of times, in twenty-four hours, but from my being obliged to rise several times during the night, it might amount to ten or twelve. I have now some faint remembrance of having observed an unusual sediment in the urine. Soon after my return home, I began to feel a pain and weakness in my back, under the lower ribs, which was severest towards the evening, but always left me when I went to bed, and returned, when I got up in the morning. My inability for taking exercise had considerably increased. One day I walked slowly about eight miles, and returned in the stage coach, but I was obliged to lie down in bed, as soon as I got home, and rest for a few hours. At this time I was very costive, and when I did procure an evacuation, it seldom gave me relief. I observed also the emission of semen, which I formerly remarked, and in the same circumstances. I consulted you upon this last symptom, and you prescribed a medicine,*

* The tincture of muriate of iron.

which removed it. I now became daily weaker, so that I was soon unable to take exercise by walking. Once I rode a few miles, but was much worn out by it. About this time I was, sometimes, attacked with a darting pain, immediately behind the glans penis, the stings of which frequently became so rapid, and so sharp, as to throw me into a violent perspiration. It was always accompanied by an uneasiness in the anus. There was no inflammation, or any other unusual appearance, where the pain was. I bathed the parts in water, but without effect. I soon discovered, that it attacked me only when my feet were damp, or cold, and left me as soon as they regained their natural heat. Soon after I began to feel it, I was confined to the house, where I had it in my power always to keep my feet warm, and consequently I have not been troubled with it since. At length I observed, that sometimes towards the latter end of a discharge of urine, a few drops of blood passed. I was pretty certain that it did not proceed from any vessel in the urethra, for it was always accompanied by a violent, involuntary pressure from the breast downwards, which seemed to be occasioned by the effort to discharge the fæces, as it never happened, but

at the time of making that effort. From this time the disease came under your own inspection; I, therefore, leave the external symptoms, and proceed, to mention what appears worthy of notice in the state of my feelings.

On my return from the sea coast, another circumstance, marking the decay of mental energy, attracted my attention. Previously to my going thither, my exercises in reading were limited in point of time; yet they were not so, as to the nature of the subject; but after my return, I found, not only, that my time was further shortened, but that I could not read any author, whose stile or whose subject required an unusual exertion of attention. I had particular occasion to observe this, for before I went thither, I had been engaged in reading two books, which required a uniform, and intense effort to understand them; and I intended to continue the perusal of them, after my return; but although I made repeated trials, I was altogether unable to proceed. The first relief, which I found, from the irritation on my spirits, was produced by the opiate. For a few nights it had this effect, but afterwards, as I mentioned to you, I thought that it rather prevented me from sleeping. Sometime after you began to

take blood, my mind not only became sufficiently strong to attend to any subject, but I could read with little interruption, from morning till night, and as I was taking medicine to prevent acidity on my stomach, I could do this without inconvenience. My tranquility also was completely restored. I cannot recollect any period of my life when I felt myself more serene. This change I imagine was gradual, for I do not remember any sudden transition. My serenity, and capacity for mental exertion, continued whilst my animal strength was decaying so sensibly, that in a few weeks I was unable to put on my clothes, and was obliged to keep my bed during a great part of the day. Yet at this very time I read more every day, than at any former period of my life. This state of mind continued as long as I continued to be bled; but soon after that practice was interrupted, I lost all inclination for mental activity; I found myself incapable of going on with studies which required much attention, and began to think of books which would allure me to reading, as an amusement. It is worthy of remark, that I did not relapse into my former state of irritation, and unhappiness; my tranquility remained unimpaired. Perhaps this marked a different stage of the dis-

ease, or perhaps the prospect of eternity, and the momentous importance of the concerns, which that prospect presents, might, by leading the mind from inferior objects, tend to prevent the return of the irritability, which had accompanied its former weakness.

I continued in this state till I was again bled, and blistered, and my diet changed; soon after which I regained my former mental activity, which I since enjoyed, without interruption. I do not suppose that I am yet capable of taking so much bodily exercise as I formerly did, my strength not being fully restored, but in every other respect I feel myself in perfect health, and as I am now no longer taking medicines to prevent acidity on the stomach, a little exercise has become as necessary, and useful as formerly.

I sincerely hope that my case may be rendered useful. I should not have sufficient philanthropy to expose myself to any disease, for the sake of illustration, but if the little which I have suffered, can be turned to the advantage of others, I will not regret it.

I am, &c.

Glasgow, 20th January 1808.

Observations.

With regard to the nature of this case, and the name which ought to be assigned to it, there may be a diversity of opinion. The frequent micturition might dispose us to rank it under the term Enuresis; but if the quantity, and quality of the urine, the pain and weakness, across the region of the kidneys, be taken into account, there are certainly some grounds for allowing it to retain the name it has received.

Taking it in a more extensive point of view, as accompanied with the loss of strength, the decline of mental energy, the emaciation of body, the irregularity of pulse, and the depraved state of the excretions, it might, with more propriety, be considered as a disease in the general system, of which the urinary affections, and other phenomena were mere symptoms, and could only be removed by correcting the general habit.

In whatever way it be considered, the success of the treatment renders it important, and points out a mode of practice, in cases of extreme debility, which has seldom been adopted. It also

shews, with Stevenson's case, that two diseases, in many respects unlike in their symptoms, and still more so in the persons affected, may be treated nearly in the same way, and with equal success.

Stevenson's case was a well marked instance of the Diabetes Mellitus. In Mr C's, the urine, on one or two occasions, was supposed to have a degree of sweetness; but at all other times it was perfectly insipid. The quantity, with the former, always exceeded twelve pints in twenty-four hours; but was never supposed to be more, than the liquids taken in: with the latter, it ranged from five, to nine pints, and in some instances, besides watery stools, it exceeded the whole ingesta.

Diabetes, in the cases of Drummond and Stevenson, seemed to arise from a previous pulmonic affection; Mr C. never had any complaint in the chest. The two first had strong constitutions, and were accustomed to hard labour, and low diet; Mr C. was of a thin slender make, had never followed any mechanical employment, and, though he had not lived luxuriously, his diet was always generous. In the two first cases, the patients were altogether unable to adhere, closely, to the animal diet. In the last instance, the patient could persist in the most rigid manner, and for any length

of time. What advantage it might have produced in the two first cases, could not be ascertained; in the last it did no good.

In this case, the most striking symptoms were, the altered nature of the urine, the frequency of micturition, the pressure, or straining, which accompanied it, the emaciation of body, the prostration of strength, the irregularity of pulse, the pain in the region of the kidneys, the change of deportment, and the loss of mental energy; but as each of these has been minutely detailed, in the narrative, it would be superfluous to discuss them individually. It may be proper, however, to add, that I have met with a lady, who had a similar frequency, and distress in voiding urine. It is now five years ago; she was then forty-six, had a good constitution, and was rather of a plethoric habit. She had ceased to menstruate, for about two years, and was afterwards repeatedly seized with epistaxis. She had been visited by a considerable number of medical gentlemen; but nothing of a diabetic nature was suspected.

What excited most attention, was the blood she passed along with her urine. When newly made, the whole mass seemed to consist of blood; but after standing till cold, the blood subsided, and

the upper portion became of a pale straw colour, and was often mixed with a thick gelatinous substance, so tenacious, that it could be lifted out of the pot, on the end of a stick. She continued in this distress, for more than a year, and was very much reduced in her body. At last the blood gradually disappeared, and was succeeded by a thick, mucous discharge, which troubled her about as long. She is now free from both, and enjoys a tolerable state of health; but her calls to void urine, are often, and urgent.

Her frequency of micturition was, for a long period, as great as that of Mr C. and the involuntary pressure, equally severe. Like him too, she had learned to anticipate the desire, and by that means saved herself a good deal of pain. She was the mother of a numerous family, and had frequently been subject to grinding pains, after delivery. These, and the pains she afterwards had in voiding urine, were so exactly alike, that, for a while, she supposed her distress to arise from a diseased state of the uterus, and that the blood came from that quarter. On a more minute investigation, it was found to issue from the urethra, and to be intimately mixed with the urine. Her complaints were then supposed to arise from

stone in the bladder. To ascertain this, she was different times sounded, but nothing of that kind could be discovered.

A variety of medicines were used, principally with a view to calculi, or to restrain the hæmorrhage; but, except a temporary relief, from such as contained opium, no other good was derived from any of them. Venesection was not tried, nor any other considerable evacuation.

During the greater part of her complaint, her appetite was most voracious. Besides concealed morsels, she was quite ashamed of what she ate, along with the rest of the family. In the night, she was often so pressed with hunger, that she was obliged to steal out of bed, and take food. She had an unperspirable state of skin, dryness in the mouth, heat and pain in the region of the kidneys, and the same weak, peevish, and irritable state of mind, which was so conspicuous in the case of Mr C.—In this instance, the cure was perhaps accomplished by the profuse evacuation from the kidneys.

About four years ago, I witnessed a case of ascites, with universal anasarca, cured by a similar discharge of bloody urine. It occurred in a man about forty-eight years of age. He afterwards

had a very rapid, and complete recovery, and has since enjoyed an almost uninterrupted state of good health. In this case, from want of appetite, a very strict abstinence was observed, which probably contributed its share in accomplishing the cure.

Nature, in Stevenson's case, made an effort of this kind; but from the inconsiderable quantity of blood, which was lost by the urinary passages, and by epistaxis, it is probable, that her attempts, if left to themselves, would have proved abortive.

Though the state of mind, which accompanies this disease, has been taken notice of, as early as the time of Aretæus; yet, on the whole, It has met with less attention, than it deserved. This symptom was most remarkable, in the case of Stevenson. When he mentioned the decline of mental energy, it excited little curiosity: that the mind should decline with the body, is to be expected; but when it was restored to its former vigour, before much bodily amendment could be perceived, I became anxious to trace the decline, and recovery of the one, as connected with the other. It is singular, that in a disease remarkable for debility, the mind should be restored to its wonted vigour, by abstracting the very

cause, on which strength and energy are supposed to depend.

Though this symptom is little taken notice of by authors, particularly of late years; yet some scattered hints may be collected, from the cases which have been published. Captain Merideth, on the evening after he was bled, "felt lighter, cooler, and more cheerful." Which shews, although it was not formerly mentioned, that his spirits had been low, and that the state of his mind was not, by any means, comfortable. The General Officer, after being a few days under treatment, is said to have become more cheerful. Mr Shirreff, in his account of a young lady's case, takes notice, that, "Early in the month of January, which was about six weeks previous to the diabetic affection, her spirits became depressed, her disposition indolent, and equally indifferent to study, or amusement."*

Mental distress has sometimes been adduced as a cause of Diabetes; but, If I may judge from the cases I have seen, it ought rather to be considered, as a symptom of the weak state of mind, which attends every stage of that complaint. Mr

* Rollo, page 272.

Houston takes notice, that the female, whose case he relates, met with a violent shock, by the death of one of her parents. "On this melancholy occasion," says he, "her grief was so very poignant, and at times so frantic, that serious apprehensions were entertained, of a total derangement of intelect. In this state she continued for several weeks."* Mr C. in his statement, remarks, that even trivial circumstances overwhelmed him with grief.

Dr Bardsley, in describing the situation of Mary Middleton, when dismissed cured, from the Manchester Infirmary, takes notice, that she was "able to lie in her bed, without being disturbed, more than once in the night; her appetite is firm, and regular, her spirits more cheerful, and her whole appearance, denotes a speedy return to a state of health, equal to what she has generally enjoyed."† In the latter part of the treatment of Thomas Whitehead; after the diabetic symptoms were said to be removed; the patient remained feeble, and did not gain flesh; it was therefore found necessary, to administer, with caution, a small proportion of vegetable food. "The salutary effects

* Rollo, page 282. † Medical Reports, page 83.

of this addition were soon visible, in the patient's improved appetite, and increased flesh, strength, and spirits."* In describing the case of William O'Brien, when admitted into the House, it is said, that "he had a tickling cough, and slight pain in the side. His ancles were puffed, and his flesh, strength, and spirits, greatly exhausted."†

An unmarried female, twenty-five years of age, when admitted into the Sheffield general Infirmary, had the following symptoms. Pain of the head, stomach, and about the region of each kidney, great thirst, loss of appetite, and strength, accompanied with much languor, and depression of spirits.‡

"A Lady," says Dr Brocklesby, "of great sensibility of temper and fine genius, rather corpulent than otherwise, though advancing in years, had enjoyed an almost uninterrupted series of good health, till about six years ago, that she felt herself suddenly attacked with a sensation of thirst hardly tolerable; this was shortly after attended with a notable wasting away of her healthful corpulency, with great dejection of spirits, a slight

* Medical Reports, page 119. † Ibid, page 136.
‡ Medical and Physical Journal, Vol. xiii. page 158.

pain in both her sides, and with a pricking uneasiness round her waist: her urine tasted exceedingly sweet, as honey itself, without retaining in any degree its natural urinous flavour."*

From these, and many other scattered hints, it is obvious, that low spirits, if not a constant, is at least a very frequent attendant on this disease; and, though seldom noticed on admission, its removal has been always hailed, by the practitioner, as a symptom of returning health.

Though the materials I have collected from observation are too few, to supply a history of the state of mind, which accompanies this disease; yet it is hoped, they will make some addition to our stock of knowledge, and may lay the foundation, for a more accurate investigation. There is little merit in discovering the nature of a disease, after it is fully formed, and where the characteristic symptoms are distinctly marked. The merit consists in early discrimination. The nearer we arrive at the origin of a complaint, there is greater hope of practising with success.

I believe, that nothing has retarded the progress of medicine more, than the attempts which have

* Medical Observations and Inquiries, Vol. iii. page 274.

been made at NOSOLOGY. If half the pains had been taken, to mark the slighter deviations from health, it would have led to results of greater importance; but these are often totally disregarded, and unless a regular combination of symptoms be discovered, so as to characterise a disease, the practitioner believes, and declares to the patient, that his feelings mislead him, and that he is really labouring under no complaint; unless it be a disordered imagination.

Such unhappy victims, conscious that their feelings are something more than mere chimeras, and finding them disregarded, or misunderstood, by the regular part of the profession, have no other resource left, than the impositions of quackery. Here they have, at least, the satisfaction of finding their complaints pretty accurately described; something like a plausible theory given, and the means of recovery, confidently pointed out. To a mind enfeebled by disease, and distressed with the most uncomfortable feelings, is it surprising, that such BAITS should often take? Why expect people to trust to professional men, who deny the reality of their complaints, and hold out no prospect of relief?

This loss of mental energy, and these uncom-

fortable feelings are not by any means peculiar to Diabetes. They accompany many other diseases, and are always extremely troublesome, both to the practitioner, and to the patient. From whatever cause they arise, they peculiarly fit mankind, for becoming the dupes of quackery. Of all the disorders, to which human nature is liable, none have less engrossed the attention of regular practitioners or been more succesfully converted to the advantage of quacks. The disorder has been seldom described, even by our best writers; yet the cases are so strikingly alike, that an accurate account of half a dozen of them, would come home to the feelings of as many thousands. It is this attention to the feelings of patients, that has given empirics their powerful ascendency.

Dr Cullen, in his chapter on hypochondriasis, gives the following account of these nervous symptoms. " A languor, listlessnes, or want of resolution, and activity, with respect to all undertakings; a disposition to seriousness, sadness, and timidity; particularly attentive to the state of their own health; from every unusual feeling, perhaps of the slightest kind, they apprehend great danger, and even death itself. In respect to all their feelings, and apprehensions, there is commonly

the most obstinate belief, and persuasion."* So far Dr Cullen is correct; but when he comes to the treatment, he observes; That "the management of the mind, in hypochondriasis, is often nice and difficult. The firm persuasion, which generally prevails in such patients, does not allow their feelings to be treated as imaginary, nor their apprehensions of danger to be considered as groundless; though the physician may be persuaded it is the case, in both respects."†

What the Doctor means by an imaginary disease, I am at a loss to understand; the hallucination is generally groundless; but the cause of this depravity of thought, and of these uncomfortable feelings, is real, and deserves more attention, than a feigned acquiescence in the patient's account of them.

A CASE is useful, in proportion to the unity of the disease, and the simplicity of the treatment. The obstinacy of the present instance, rendered the practice more complex, and protracted, than

* Cullen's Practice, Vol. iii. page 282. † Ibid, page 297.

could have been wished; though nothing could be more decisive, than the latter part of it. The patient, in a very few weeks, was restored, from the greatest distress, and weakness, to the most perfect health. It becomes, therefore, an object of importance, to analyze the case, and if possible, to separate the parts which are useful, from the rest, and particularly from those, which actually did harm. The time may be divided into different periods.

During the first, which extended, from the beginning of October, till the 13th, the patient abstained from animal food, wine, spirits, and every thing of a heating, or irritating nature. The bowels were kept moderately open; diluents were freely used, and an opiate taken at bed-time. This practice was persisted in, for eleven, or twelve days, without any advantage. On the contrary, the number of times of voiding urine, had increased, from eighteen, to twenty-six, or twenty-seven. The pulse had become weak, and intermitting; he had lost three pounds of his weight, and his strength, and spirits were declining rapidly. The quantity of urine varied, from five to eight pints, at times it equalled the whole liquid

ingesta, and afforded, by evaporation, a copious extract.

In the second period, which extends from the 13th October, till the 26th of the same month, the patient, as to meat and drink, was allowed to live pretty much in his own way; the bowels were kept moderately open, and the opiate was occasionally continued, at bed-time. On the evening of the 15th, and morning of the 16th, the patient was persuaded to eat beef steaks, and found all the symptoms greatly aggravated. The four succeeding days, he was very abstemious, and every thing seemed to wear a more favourable aspect. On the 20th, his appetite became keen, and a second indulgence produced a second relapse. On the 21st, the emetic had a good effect; but on the 23d, his appetite returned, and it was thought hard, to deprive a person of nourishment, when his body was sinking so rapidly, and when the depletion had been so considerable. He was bled six times, and had lost above an hundred ounces of blood. But, notwithstanding the continuance of some of the most distressing symptoms, the improvement, in this period, was very conspicuous. The pulse, from being weak and intermitting, had become firm, and regular; the inflammation of the

eyes was gone, and his vision had become strong, and distinct; the blood, which he used to pass with his urine, had left him, and the urine itself was diminished in quantity, and more natural in its appearance. But the most striking improvement was the restoration of the mind to its wonted energy.

In the third period, from the 27th October, till the 12th November; his health, and strength were rapidly on the decline. Various injections were tried, to allay local irritation, but without any advantage. The perinæum was blistered repeatedly. At first, this seemed to afford some relief; but after a more extensive trial, it was found unavailing. The anodyne was increased, from thirty-five to sixty drops, and afterwards to an hundred; but even this very large dose produced but a transient respite from the pressure. In this period, the greater part of his diet was animal food; for the last seven days it was entirely so; but made no impression on the disease.

The fourth period, extends from the 12th November, till the middle of December. In this interval the treatment was completely changed, and the progress, towards recovery, was uncommonly rapid. At the commencement, though the

patient was greatly worse on the whole than he had been at all; yet, in some respects, he had not relapsed to his original condition. The mind continued serene, and even retained a considerable portion of energy; the blood was still inflamed, and of due consistence. In this period, he was bled four times, and lost about fifty ounces of blood. Seven blisters, each of them nearly the size of the hand, were applied to the region of the kidneys, and a pretty rigid abstinence was observed. No medicine whatever was used, till the 29th November, when he began the lime water, which seemed to have a happy effect, on the state of his stomach, and bowels, and probably contributed to his final recovery.

From the above statement, some important inquiries arise. What share had the first six bleedings in accomplishing the cure? If the treatment, which was begun upon the 12th November, had been tried on the 1st October, would the result have been equally decisive? Are the three different branches of treatment, venesection, blistering, and abstinence, of equal importance? In what circumstances may any one of them supply the place of another, or be dispensed with altogether? Should the blood-letting be carried to a

great extent at once, or will it answer the purpose better, to take it in smaller quantities, and at stated intervals? What are the criteria, which mark its being carried a sufficient length?

A copy of the preceding report and observations, as also the cases of Drummond and Stevenson, were transmitted to Dr Cleghorn, with a request that he would give his opinion concerning the correctness of the statement, and of the conclusions drawn from the facts. I received the following answer, and, as it contains some important observations, have since obtained his permission to publish it along with the case.

DR CLEGHORN'S LETTER.

Glasgow, April 5th 1808.

DEAR SIR,

I AM obliged to you for allowing me to see the cases of Diabetes that you intend to publish.

With regard to Mr C. the only one of your patients whom I saw, every fact is accurately stated so far as I have had an opportunity of judging. Since his recovery I have frequently seen him, always in good health and spirits, and during last session of College, he was able to prosecute his studies with ardour.

I think you should publish all the cases, but especially Mr C's. in very minute detail, taking care, however, to avoid extraneous matter, or too many general discussions, by which, particular cases are often rendered insufferably tedious. On the other hand, it seems a great error to omit any fact the existence of which is well ascertained, merely because we do not perceive its utility or importance. If facts be correctly stated, they can hardly be recorded too minutely, and a future age

may derive instruction from that, which, to the original observer seemed of little use. Your cases open very interesting views, but they lead to conclusions so different from those generally received that you must expect considerable opposition. Those attached to the prevailing systems will most probably treat your cases with contempt and your conclusions with ridicule, for next to ignorance and self-conceit, a bigotted attachment to particular words seems the most effectual bar to the admission of truth into the human mind; but I am persuaded a number of those engaged in practice, and solicitous to improve it, will consider with attention both your facts and reasonings.

The great error in medical reasonings consists in drawing general conclusions from a few facts, an error indeed not peculiar to medicine, for it occurs in almost every science. That a state of apparent debility may proceed from a condition of the human body that nothing but the loss of blood can remove, is a position, which, though it has been ridiculed as the most absurd of all paradoxes, might be illustrated by many diseases. I have long acted on it in some diseases to a certain extent, but never, either in Diabetes, or in any other disease to the same extent that you have done.

I shall omit no opportunity of ascertaining the propriety of your practice by such trials as I think safe, though I anticipate considerable difficulties. In cases of œdema when the occurrence of pneumonic symptoms seemed to require the loss of blood, I have known the patient sink very speedily under evacuations far inferior to those you mention, and that too where the debility did not seem so remarkable as in some of your cases. Besides, the ill success attending the free use of the lancet in different parts of the continent, and in some of our great towns in which it has been sometimes used very freely, has attracted the censure of medical observers remarkable for accuracy and candour, while it has excited the ridicule of comick writers. If the latter do not influence the conduct of physicians, they certainly do influence to a great degree, the sentiments of the publick; yet it seems to follow from your experiments, that in many cases, the loss of life may have been occasioned not by taking away blood, but by taking too small a quantity. It would therefore, in my opinion add great value to your cases if you could, with tolerable precision, fix a criterion by the help of which an attentive practitioner might be able to ascertain 1st. When it was necessary to take

away blood in spite of apparent debility; and 2dly. how far the evacuation might be carried in such a case; or, what is the evidence of its having been carried far enough?

By precise information on these points men of candour might be induced to repeat your experiments with some confidence, while the risk, inseparable from general, empyrical imitation, would be considerably diminished.

Sincerely wishing that your publication may prove creditable to yourself, and useful to mankind, by improving the practice of medicine,

I am,

DEAR SIR,

Your most obedient servant,

R. CLEGHORN.

CASE IV.

MRS CALDWELL; AGED 57.

March 20th 1808.

This patient was rather of a plump habit, inclining to plethora, with a smooth soft skin and ruddy complexion. She is the mother of a numerous family; has been a widow sixteen years and has not menstruated for more than twelve. She has lived a very sober life, and a mercantile business which she has followed required considerable activity both of body and mind. Owing to a cold, which she caught, about fifteen years ago, she has had frequent returns of deafness, tinkling noise in the ears, throbing in the head, and occasional vertigo. During the greater part of that time, she had periodical returns of epistaxis, generally once and often twice a week. These were never very profuse, but they always afforded relief to her head. She has had nothing of this kind for more than three months. She has been habitually costive these twenty years, but has never been accus-

tomed to take any medicine. In June last, she was some weeks from home on business, and lodged in a cold damp room. Since that time her health has been constantly on the decline. The deafness and complaints in her head have become permanent, and even the epistaxis, while it continued, did not afford its usual relief; to her other complaints a teasing troublesome cough was added; her flesh began to waste and her strength declined rapidly; her skin became arid, harsh and scaly; the feet œdematous constantly cold and at times livid and painful; she is subject to cold rigours and has a constant wish to sit near the fire. Her appetite, from being weak and capricious, has become more craving, and what she eats is quickly digested; but she has never been in the habit of indulging beyond her ordinary meals. She has often pain, heat and uneasiness in the stomach and bowels after eating. Thirst, a thing almost unknown to her, has become at times very urgent, the mouth, particularly through the night, is dry and ill tasted. The tongue is white and foul in the middle, with red edges. The gums are spongy, slightly ulcerated on the edges, and surrounded by a purple margin.

It is about four months since she observed a

change in her urine. The quantity is considerably increased, and the frequency of micturition is very distressing. The last of these is not permanent, it seldom troubles her through the night, and sometimes goes off, in a great measure, for the space of a week. For this she has never been able to assign any reason, but she has remarked that when the frequency is greatest the quantity, on the whole, is inconsiderable. The urine, when newly made, has a bright straw colour, a sour disagreeable smell, and, on cooling, deposits a copious white sediment. The quantity has never been accurately ascertained, it varies in proportion as she indulges her thirst, on one or two occasions, it amounted to about eight or nine pints in twenty-four hours; but in general, though her mouth be dry she does not indulge her inclination to drink; the liquids seldom exceed five pints, and the urine is generally about the same quantity. She has a constant itchiness about the meatus urinarius externus.

Her strength is very much impaired, particularly of late, she has a constant pain and weakness in the region of the kidneys, with palpitation of the heart, dyspnæa, indistinct vision, and vertigo on the least exertion.

The ravages of the disease in her mind are no less remarkable than in her body. From being lively, cheerful, and enterprising, she has become dull, peevish, and timid; constantly disposed to sigh and paint futurity in gloomy colours. Averse to join in society, though she finds a temporary relief from it. When alone her recollection broods over melancholy incidents, which time had almost effaced from her memory. Her greatest distress arises from an unaccountable perturbation when any person enters her apartment suddenly; and a terror which often seizes her through the night, for which she can assign no reason. She has inhabited the same house sixteen years, and, till within these four months, even alone in the night, she never felt the impression of fear.

On the 23d instant, she took a dose of castor oil, and was rather relieved by it for a day. The stools were very dark and fetid, but not copious; she has been weaker since. Pulse 65, feeble, but regular. Having become costive again, another dose was ordered. With a view to recover the functions of the skin, she was directed to keep her bed, and increase the warmth of her clothing.

27th.

The castor oil operated twice; the stools were

soft, brownish and fetid. Pulse the same as yesterday. The weakness and pain in the region of the kidneys have increased; in other respects she is much the same. Liquids last twenty-four hours about three pounds; urine rather more than four. The frequency has not been great, but the itchiness very troublesome.

28th.

She has had a bad night, and been very uneasy since the morning: feels so weak and dispirited that she cannot think of speaking or moving. On awaking about two o'clock she was seized with a fear and quaking, without any known cause; these banished sleep for the rest of the night. A soft, fetid stool in the morning. Pulse 70, feeble. I took sixteen ounces of blood from the arm; she sat up and bore the evacuation well. After a few minutes the blood was streaked with a deep violet, the red soon after disappeared entirely; the violet gradually changed into a pale green, and became permanently of a yellow colour approaching to orange. Pulse after venesection the same as before. A spare diet was recommended.

29th.

She has had a better night; feels more comfortable to-day, but very weak; the pain in the back

is abated. She felt twice or thrice a heat over her body as if she would have perspired; drink and urinary discharge same as formerly. The blood, taken yesterday, has a pretty thick buffy coat, about the fourth or fifth of an inch; but it is not contracted nor turned up at the edges, and has very little tenacity. The rest of the crassamentum is black as pitch and quite rotten. Pulse 70, and regular. No stool.

30th.

Pulse 65, weak; no stool; urine nearly the same as formerly, but the desire to void it not so frequent nor accompanied with so much uneasiness; since bleeding her sleep has been more sound and refreshing; the pain in the back is easier; her feet are less swelled and more comfortably warm. I took eighteen ounces of blood from her arm; she became a little faintish, towards the end of the operation; but on lying down it soon went off. On cooling, the surface of the blood in the cups did not break into streaks of red and purple, as yesterday, the whole gradually changed from a red to a purple, and from a purple to a buff, passing regularly through all the intermediate shades. From the depth of the semitransparent fluid on the surface, the inflammatory

crust appears to be pretty thick. Ordered a dose of castor oil.

31st.

The castor oil has operated twice; the stools were pretty copious dark and fetid. She has had occasion to make water only twice through the night and it was done without pain. Her rest has been disturbed; but, upon the whole, she had less of the terror than formerly. The pain in the region of the kidneys is so very severe to-day that she can scarcely walk across the room. The swelling and livid colour of the feet are better; she feels more improvement in this particular than in any other part of her complaints. She has adhered most rigidly to the low diet, and finds that it agrees well with her stomach. A pretty large blister to be applied over the right kidney, and to be kept on as long as she can bear it.

April 1st.

The blister has been kept on nearly twenty-four hours, and has acted powerfully. It had no tendency to produce strangury, although she has drank very little since it was applied. Pulse 70, firm and regular. The stupor and distress in her head have rather abated; and, notwithstanding the blister, the night has been more comfortable than

usual. She has made about three pints of urine of a pale greenish colour. It has deposited a pretty copious white flaky sediment and has a sour pungent smell. No stool.

2d.

She has passed a comfortable night; had a good deal of sound refreshing sleep; awaked several times, but found little of the unaccountable terror; the pain in the back much abated. The blister continues to discharge profusely. Pulse 72. Tongue clean; gums have assumed a more healthy appearance; vision more distinct; no stool since the operation of the castor oil. Urine about two pints and more natural in its appearance.

3d.

Two pills, each containing two grains of calomel and two of ipecacuanha, were taken last night; they pained her a good deal and produced three pretty copious, brown, fetid stools in the morning. She has been considerably relieved since; but feels weak and languid. Blister continues to discharge; pain in the back relieved; had a restless night. Pulse 74, firm and regular. The stupor and vertigo are considerably abated; but she has a strong throbbing in the back part of the head and in the temples. On some parts of the body

the old cuticle begins to scale off and is replaced by new healthy skin. The swelling and discoloration of the feet entirely gone.

4th.

She has had a good night; sleep more sound and refreshing than it has been for several months. She awaked different times quite composed and fell asleep again without any of her former fear and trepidation. To-day her mind is more cheerful than it has been at any period of the treatment. Eighteen ounces of blood were again taken from her arm, she bore the operation well and thought herself relieved by it. Blood nearly the same as the last. Pulse before bleeding 76, after it the same. No stool: tongue clean, though she has, occasionally, a bad taste in the mouth. She was ordered to take other two pills at bed-time.

5th.

The pills have not operated, but she has had a quiet comfortable night. Two different times she felt a gentle perspiration on her temples and on some other parts of her body; this is new to her. More than half of the skin has a healthy appearance and the other half is fast improving. The throbbing in the head has been easier since last bleeding. Her mouth has become sore and

her teeth loose and on edge, probably, in consequence of the calomel. She was desired to take two pills in the afternoon and to work them off with a weak infusion of senna. The urine made since yesterday is natural both in quantity and appearance, Pulse 84. The blood has a very thick buffy coat and contracted on the surface to the size of half a crown. The coagulum is so tenacious that it can be lifted out of the serum and suspended on the point of a probe.

7th.

Two more of the pills were taken, in the afternoon, and produced three copious, greenish stools before bed-time; the last was more natural in its appearance and less fetid than any she has had for some time. She has perspired a good deal through the night, and feels herself uncommonly well to-day. The mouth, however, is much worse; salivation has commenced; the tongue is swelled and the gums have become very red and spongy. She has scarcely taken either meat or drink since yesterday. Pulse 80. She was ordered to take a dose of castor oil and to omit the pills.

8th.

The castor oil produced one large natural stool.

She feels herself better, but the mouth is as bad as ever. She has taken nothing these two days, except a spoonful or two of sowens, yet she feels her strength improving. Pulse 78.

10th.

She had an easy stool yesterday, without any medicine, a circumstance, that has not occurred for some months past. The urine is scanty, but natural in its appearance. Her mouth is better. The blister on the right side being nearly whole, another was ordered for the left, and to be kept on as long as the former. Her appetite having become keen, a little beef tea is allowed to dinner, and the quantity of bread at other meals to be somewhat increased. Pulse 78.

12th.

The blister has been kept on about twenty-four hours, and has done extremely well. It produced a slight degree of strangury, which was removed by warm fomentation. Having had no stool today a dose of castor oil was ordered, and the regimen to be continued. Pulse 74. Mouth nearly well.

15th.

Blister continues to discharge very profusely; the pain in the back is entirely gone; and her

strength is so far recovered that she can attend to her business; the appetite continues good, and the bowels are natural; the skin is soft, smooth, and so flexible, that a large portion of it can be grasped between the finger and thumb; her vision is more distinct than it has been for some years; her memory, which had suffered much by the disease, is considerably restored; the terror and trepidation have entirely left her; cough and expectoration better. The tongue is clean; the gums sound and healthy. Pulse 70.

19th.

She now considers herself in perfect health: indeed the only thing which remains is the noise and confusion in her ears; but to this, as was formerly remarked, she has been long subject. As a probable means of relief, she was desired to shave her head, and apply a large blister, to which she readily consented.

20th.

The blister was kept on about thirty hours, and has done remarkably well. The discharge is very profuse; the noise and disturbance in the ears is better, but not wholly removed. In every other respect she finds herself well; the bowels continue regular without using any medicine. Pulse 72.

30th.

She has continued in uninterrupted good health since last report. The weather has been good; she has walked out frequently, and is astonished at the strength and spirits, she has acquired in this short interval. Formerly she could not go up a single pair of stairs without great fatigue. To-day she walked up a rising ground for a quarter of a mile, and then up two pair of stairs, without resting or feeling tired. The skin, on every part of her body, has become soft and natural; and she perspires freely on taking any considerable exercise. She has had no return of swelling in the legs. Her appetite is good; the tongue is clean, and the mouth well tasted. She has no thirst, and the urinary and alvine excretions are natural. The terror and trepidation, which haunted her, at all times, and rendered her life miserable, are entirely gone. The energy of her mental faculties is completely restored.

May 12th.

She continues well; since last blister, the confusion in her ears is better; she gains flesh and strength daily. To-morrow she undertakes a journey of fifty miles, and intends being from home for two or three weeks.

Observations.

THE propriety of ranking the preceding case under the term Diabetes may be disputed. Neither the quantity, nor quality, of the urine were very strikingly characteristic of that disease; but the other symptoms, as enumerated by our best authors, were most distinctly marked; and, as a similar treatment has been successful, it was thought unnecessary to arrange it under a separate head.

As the disease derives its name from the excessive discharge of urine, the quantity has naturally excited much attention; but, nothing very definite can be said with regard to it. No particular quantity has been pointed out as constituting the boundary between health and disease. One person has twice as much as another, without any very apparent difference in their drink; yet both equally enjoy good health. In Diabetes one person makes an enormous quantity, another makes little more than natural; yet both decline with equal rapidity. Exclusive of what may be styled the fabulous history of the disease, the variety in this respect is truly astonishing. In some instan-

ces, even of a recent date, the quantity has exceeded seventy pounds in one day;* while in others it has not amounted to seven or eight. The greatest of these, however, is a mere trifle to what some of the ancients have related; but their accounts are too extravagant to entitle them to attention.

The sweetness of the urine, as discoverable by the taste, is equally uncertain. Of this a very striking proof has been given in the opposite opinions of Cullen and Heberden.† In some instances, the sweetness is a most striking symptom; in others, it is not at all to be discovered, while the disease is equally fatal in both. It is yet to be ascertained, whether urine when a person enjoys tolerable health, or when labouring under other diseases, may not, at times, have saccharine qualities. But the most confounding circumstance of all is, that the urine in the same person changes almost every hour. We have a very remarkable instance of this, in the case of the young lady related by Mr Shirreff of Deptford; "at one o'clock her urine was free from sweetness and perfectly insipid; sometime after it appeared natu-

* Duncan's Annals of Medicine, for 1801. † See page 12.

ral; two hours after dinner it was sweet; and in the evening again apparently natural. The urine voided in the intervals of her meals is insipid, and is salter, and more urinous, the farther distant from the meal."* In a course of observations, which I made on the urine of a person in tolerable health, I found changes almost equally sudden and striking.

The circumstance of the urine exceeding both the liquids and the solids taken struck observers with astonishment, and has thrown a degree of mystery over this disease above almost every other. The fact was doubted by Dr Rollo, and the experiments of Dr Currie and others seemed to confirm him in the belief, that the quantity of urine never exceeded the whole ingesta. On the other hand Dr Bardsley's cases seem to prove, in a pretty satisfactory manner, that in some cases the urine does exceed the amount of both solid and liquid ingesta.† He also attempts to shew, that Dr Currie did not take into account the constant waste of the patient's body, which was a pound a-day, or absorption, either by the skin or lungs, was evident even from Dr C's own expe-

* Rollo, page 275. † Medical Reports, page 145.

riments. Absorption may be possible, and the quantity of urine may exceed the ingesta; but unless it be established on facts more accurately ascertained, than any as yet before the public, the subject admits of much doubt. In all the cases I have seen, the urine has been less than the ingesta. For a night or a day, or even a longer period, the urine might exceed what was taken in; but on a more extensive average it has always come short.

There is, generally, some degree of inflammation and swelling about the external orifice of the urethra. This has occurred in every instance of the disease I have seen. In females it is a most distressing symptom, and one, for which almost nothing can be done, while the original disease remains. In the present instance the heat and itchiness in that quarter were not permanent; though on some occasions they gave her a great deal of uneasiness, I met with a patient, sometime ago, who had laboured under a mild Diabetes ten or twelve years. Without any treatment the frequency of micturition and the urinary discharge diminished; but the heat and itchiness, about the external orifice of the urethra, and at times extending to the mons veneris, have been so distressing

as to render her life miserable. By moderate bleeding, a careful restriction in diet, by drinking lime water, and by bathing the parts with it, the distress has been much relieved. The patient is about fifty years of age, and the mother of a numerous family. After the diabetic affection, she never exceeded the eighth month of gestation; had several early abortions, and was not able to suckle any of her children.

Pain in the region of the kidneys and loins, is a most distressing complaint, and very common among females. It seems to mark a particular state of body; but is by no means peculiar to Diabetes. I have not met with an instance of leucorrhœa where it was not present to a great extent; and the same thing follows almost every derangement of the uterine functions. In the latter cases, however, the pain is generally lower situated than the region of the kidneys. There are few symptoms more generally met with, than pain and weakness in the back, not only in chronic, but even in acute diseases. The pain and debility in the back, which precedes fever, cannot be easily distinguished from that which accompanies Diabetes. Is there any similarity between the habits of body in the two diseases? Where is the affec-

tion generally situated? In Mr C's case the parts were painful to the touch, but had no other sign of disease.

An oppression about the precordia, and a tendency to sigh, were very conspicuous in the present instance. No effort could restrain her from heaving a deep sigh every now and then. A person, unacquainted with her situation, would naturally have supposed, that she had met with some dreadful misfortune. According to her own account, she felt relief from every sigh; but she had no sooner given one, than the propensity returned as strong as ever. Her relations frequently exhorted her to cheer up her spirits, and, by all means, to give over sighing, as she had no real cause of sorrow. She acknowledged she had none; but assured them it was as impossible to do that, as to prevent the wind from blowing. Every attempt to comply with their request, only added to her distress.

Sighing is very prevalent among females labouring under any obstruction or irregularity of the catamenia, and is generally attributed to some disappointment or vexation. But I suppose the cause is often mistaken for the effect. Disappointment must often occasion grief; but, if the per-

son be not under the influence of a morbid sensibility, we have proofs every day, that grief very soon gives place to passions of a different cast. Whenever a person is more affected by an incident than could reasonably be expected, when the same thing affects them more at one period than at another, and, particularly, when they are insensible to every kind of comfort, there is good reason to suspect, that their grief is heightened, and protracted by a morbid state of body; and, that the affection of the mind can only be cured by its removal. The patients can reason, and form resolutions to act otherwise; but they want the power of carrying them into effect.

Fear and terror are, perhaps, never met with to any unreasonable extent, except, in conjunction with some bodily disease. In some instances the patients are afraid of, they know not what. This was very much the case in the present instance. She could assign no cause for her fear, it came on like a shock of electricity, and after continuing for several hours, it often left her as quickly; but was succeeded by a quaking and trepidation, which generally banished sleep for the rest of the night, and frequently haunted her through the day. In other instances fear assumes the charac-

ter of a hallucination. The patient apprehends immediate danger from some ideal bodily complaint, or from some supposed, or real enemy. During the influence of these particular affections, any attempt to change the direction of their thoughts, rather aggravates than relieves their distress. They soon suspect your integrity, and if you persist to oppose them, they rank you among their enemies.

For this weakness of the nerves, as it has been generally denominated, I have found no remedy equal to abstinence, blood-letting and purging; and as the patients are often of a plethoric habit, they bear evacuations extremely well, particularly after it has been carried to a considerable extent. In some instances, for the first, second or third bleeding, they have found no relief; and yet, by a due perseverance in the same plan, they have been completely cured. People who contract habits of intoxication, are of this description. Ardent spirits, wine, opium, and other stimuli, give relief to their feelings, and occasion a short delirium of joy; but these irradiations serve only to increase the horrors of the succeeding gloom.

Vertigo and indistinct vision very often go together, and are frequently met with in a variety of

diseases. They have occurred less or more in every case of Diabetes I have seen; but were particularly conspicuous in the present instance. Mr C. had occasional vertigo, and his vision was so imperfect, that he could not read nor look steadily at any small object. Both of these affections seem to accompany that particular state of body, which I have been endeavouring to investigate, and can only be cured by its removal.

Dr Rollo remarks, "that weariness and disinclination to motion or exertion, with the feeling of weakness, are among the most remarkable symptoms of Diabetes."* These symptoms are certainly very frequent, if not constant attendants on the disease; but on the other hand, patients often possess an uncommon degree of strength, compared with the appearance of their body. Though debility must depend much on the emaciation, which attends this disease; yet it is not the most emaciated, who are least able to take exercise. Prostration of strength often depends on other causes besides emaciation. Lassitude, depression of spirits, and disinclination to every kind of exercise, are as con-

* Rollo, page 380.

spicuous in the first attack of fever, even before the body has suffered almost any waste.

The feelings of patients in the first stage of fever, and in Diabetes, are so much alike, that the same words might express both. "The person is seized with languor; dejection of spirits; amazing depression and loss of muscular strength; universal weariness and soreness; pains in the head, back, and extremities, and rigours; the eyes appear full, heavy, yellowish, and often a little inflamed; the temporal arteries throb violently; the tongue is dry and parched; inspiration is commonly laborious, and interrupted with deep sighing; the breath is hot and offensive; the urine is crude and pale; the body is costive; and the pulse is usually quick, small, and hard, and now and then, fluttering and unequal. Sometimes a great heat, load, and pain are felt at the pit of the stomach, and a vomiting of bilious matter; a listlessness of every thing around; faintishness, giddiness, and pains in the eye-balls, and lower part of the forehead; thirst; the perspiration is irregular, interrupted, and greatly diminished; the saliva is viscid, and the skin hot, dry, and hard."*

* Thomas's Practice of Physic, pages 28 and 42.

The principal difference seems to consist in the duration of these complaints; in fever they continue only for a few days; in Diabetes they last for months, or even years. Is the subsequent fever, the means, which nature employs for recovering the patient, from that particular state of body? Could the treatment, which has been found useful in Diabetes, and other diseases akin to it, be advantageously employed in the early stages of fever? Dr Rush found a strict antiphlogistic treatment, to be the most successful; after its adoption he lost few of his patients.

The state of the skin deserves particular notice, as there is, perhaps, no instance of the disease, where it is not considerably affected. This happens different ways. In some, it would appear, that the cellular membrane is either destroyed altogether, or very much changed in its texture; the whole integuments adhere firmly to the muscles, and the skin becomes hidebound. In other instances, the morbid affection is, principally, confined to the cuticle. This state is, perhaps, oftenest found in patients who have been much accustomed to perspire. The cuticle appears to be quite dead, and no exertion, whatever, can produce the smallest degree of perspiration. It has

sometimes a dry scaly appearance; sometimes it is hard, smooth, and cracked; sometimes the papillæ are enlarged and indurated, so as to have nearly the appearance of a new plucked fowl; sometimes the whole is discoloured, shrivelled, and hard, like the skin of a dried fish. All these varieties are sometimes found on different parts of the same body. In the case of the young lady, formerly mentioned, "The skin was dry, hard, void of elasticity, shrunk, of a leaden hue, and seemed to adhere to the muscles; one would have supposed, that there was no cellular membrane, being not only void of fat; but the motion of the skin was also trifling; in a word it seemed to be what is called hidebound."*

This state of skin is not peculiar to Diabetes. Of the three most remarkable cases of dry, harsh skin, I ever met with, two accompanied caries of the tibia, where there was an excessive, purulent discharge for several months; and one attended morbus coxarius, which did not suppurate. The inflammatory symptoms were subdued by extensive and repeated blistering.

There is no study more calculated to improve

* Rollo, page 274.

the healing art, or to throw light on the nature of disease, than a minute attention to the state of the skin. Medical assistance is seldom required, where it is not less or more affected, and we have no security of the disease being removed, though apparently local, till the skin assume a healthy appearance. An excess or deficiency in the cuticular discharge never fails to produce some derangement in the rest of the system.

The treatment of this case was more simple, than any of the former, and though the patient was considerably advanced in years; yet that circumstance seemed neither to hasten, nor retard the cure. After the intestines were well evacuated with castor oil, the patient was bled, in the course of a week, to the amount of fifty-two ounces. The blood had nearly the same appearance as in the other two cases; but had not acquired such a degree of consistence before venesection was given up. She was blistered first over the one kidney, and then over the other, and lastly, on the head; from all of which she experienced relief, and bore their application with a degree of fortitude, that I

did not expect, considering the debilitated state of her mind.

In chronic cases, I have always found blisters do good in proportion to the time they were kept on, and if they chanced to produce strangury, so much the better. I scarcely remember an instance of a blister having this effect, where the patient was not afterwards much relieved. This patient kept on each of the first two about twenty-four hours, and the last one above thirty. There is one thing to be remarked, that blisters seldom do much good, till late in the treatment, and after the system has been duly evacuated. If they are too early applied, they are borne with less fortitude, and the patient will scarcely submit to a repetition.

The management of the patient's diet, is one of the most important parts of the treatment; but, in too many instances, it is very little within the power of the practitioner. The cravings of the patient, and the indulgence of relatives, often frustrate his best endeavours. With regard to diet, in the present instance, my instructions were most rigidly observed; and the accidental affection of the mouth with the calomel, caused even a greater degree of abstinence, than was intended.

In obstinate chronic cases, and particularly where the skin was dry and unperspirable, I have been much in the habit of prescribing calomel, accompanied with some diaphoretic, most commonly, the pulvis antimonialis, sometimes tartarized antimony, and now and then ipecacuanha, and have often experienced considerable advantage from them. In this instance, pills, containing equal parts of calomel and ipecacuanha, were prescribed, and she had taken only a very few of them till the mouth became affected. Her very rapid and complete recovery afterwards, has induced me to try the same experiment since, and I have found it a very useful addition, to the other parts of the treatment.

I have remarked that, in all cases where the mouth was easily affected, the patients have had good recoveries. I have also remarked that, mercury has a greater and more instantaneous effect on the system, when preceded or accompanied with venesection, than when used by itself.

CASE V.

THOMAS HENDERSON; AGED 66,

LABOURER.

September 16th 1806.

THIS patient was originally strong and remarkably healthy, but caught cold by being out at night, and standing with damp feet. His health has been on the decline since mid-summer. About eight or ten weeks ago, he was seized with an uncommon thirst, and a very frequent desire to make urine. The desire came on so instantaneously, and was so urgent, that he could not put it off for half a minute. The quantity of urine was far above natural; but this gave him less concern, than the frequency and the uneasiness of micturition.

He has been much troubled with a heat and pain in the region of the kidneys. His bowels

have, in general, been costive, sometimes, he has had a diarrhœa without any evident cause; but this generally left him of its own accord, and he did not think himself the worse of it. His appetite during the early part of these complaints was very keen; but the taking a full meal, particularly dinner, produced pain and twisting in the stomach and bowels; sometimes he became sick, and vomited. In health he was often subject to heart-burn, and has been more so of late. His appetite has failed very much for the last two or three weeks; the thirst is still urgent. His gums are white and have rather a raw appearance; but no ulceration nor purple areola; tongue remarkably foul; he has been in the habit of taking a knife and scraping off a thick crust of tough mucus from it every morning. He has generally a bitter taste in the mouth. His body is very much reduced and has a bloached haggard appearance. He is still able to follow his employment; but his strength and spirits are much impaired. The eyes are muddy and at times stiff and painful. Any considerable exertion is apt to produce vertigo. Even in warm weather, he feels chilliness through his body, and his feet are always cold.

His diet has been uniformly porridge and milk

to breakfast and supper; bread and cheese to dinner through the week; barley broth and beef on Sundays. His general drink is butter milk or common water.

About six weeks ago the prepuce swelled, was very much contracted, and drawn forward over the glans penis, as if a ligature was tied around it. This constriction proceeded so far, that it not only prevented retraction of the prepuce; but also stopped the flow of urine, making it distil in drops, or squirt in a small stream, as if forced through a capillary tube. Soon after this, an almost total suppression took place, and one of his legs began to swell, and likewise the scrotum. The latter was distended to the bulk of a child's head, and the former to nearly twice its natural size.

In this situation he applied to a medical gentleman, who pronounced his complaint to be a gravel, gave him some medicines to be taken internally, and a saturnine solution to be applied to the swellings. After continuing these applications for a considerable time, without any advantage, he applied to another, who told him his disease was dropsical, gave him some pretty strong cathartics with cream of tartar and nitre. These had the

desired effect of producing a copious alvine discharge, and of reducing the swelling of the leg and scrotum. The prepuce too was a little relaxed and the urine flowed with more freedom.

While I was present he made near a pint of a pale, straw, or rather, whey coloured urine, of an insipid taste and totally destitute of smell. The quantity he makes may amount to ten or twelve pints in twenty-four hours, and he has generally to rise five or six times every night. Some weeks ago, the quantity of both drink and urine was much more than it is at present.

24th.

He has been rather better since the swelling was reduced; but of late it has appeared in both legs and the scrotum, which was never wholly reduced, has also begun to increase. The penis too is œdematous and the phymosis almost as bad as ever. Within these last five days, he has taken more victuals than he has done for three weeks before. Thirst has not been very troublesome, though he finds it agreeable to drink now and then, and takes a good deal of liquids along with his food. In speaking of his former thirst, he expressed himself in the strongest manner; his

words were, "I could have wished a burn* to run through me." He drank mostly butter milk, small beer, and water, all of them were agreeable; but the dish was no sooner from his head than the thirst returned.

At present he rises four or five times every night. The desire does not come on so instantaneously as it did once. Though he has taken his victuals well for these four days; yet he finds himself weaker than ever. His skin is dry; but perhaps, not more so, than is common, to a man of his age, who has been much exposed to the weather. He never perspired much, of late, it has left him altogether. His teeth have been loose for some time; but this is, perhaps, the effect of mercury in the medicines, he has been taking. He has never had a headach, at any period of the disease; he sometimes feels a weight in the lower part of the forehead, as if something were pressing upon his eyes.

He has used the elixir of vitriol pretty constantly, and thinks, it has abated the thirst. Tongue white and foul; mouth bitter; bowels irregular, rather inclining to diarrhœa; pain and weakness in

* A brook or small river.

the back excessive. Pulse about 76, weak, and not altogether regular.

Oct. 20th.

He continued nearly stationary, for some time, after last report; but on the whole, he lost strength, became more and more emaciated, and the swelling increased. His appetite is keen, and his thirst, though not so violent as it was once, has become more urgent. He had been generally loose in his bowels, since taking the purgatives; but about two weeks ago, he was seized with a violent diarrhœa, which has continued to distress him ever since. The discharge is quite fluid, and comes on so rapidly, that he has great difficulty in keeping himself comfortable. Of late, he has not been up less than ten or twelve times each night. He continues still at his work; but his strength is almost gone, and his body very much wasted. The aliment seems to be discharged quickly; yet the stools have a digested appearance, and are excessively fetid.

He has taken castor oil, several times; but thinks, it rather aggravates, than relieves the distress. Pulse 86, so weak, that it can scarcely be felt. The gums have a white, bleached appearance; but are not the least tumid, nor ulcerated.

Since the diarrhœa came on, the diabetic affection has almost left him. The phymosis, and the swelling of the penis, and scrotum are greatly better.

25th.

I received the following account from a relation. He had an anodyne astringent mixture, on the 20th; this seemed to moderate the diarrhœa, for two days; but it is now worse than ever. His strength is gone; he cannot rise from his bed without help; the discharge is so offensive, that scarcely any person can stay in the room. As the alvine excretion increased, the urinary discharge diminished, and is now almost nothing.

Nov. 1st.

He died, after being reduced to a most deplorable state of weakness and distress.

Observations.

The rapid decline in this patient's health is a farther proof of the fatal nature of Diabetes. It shows too, how readily one disease may be converted into another. In the first instance, it appears to have been pure Diabetes succeeding to cold, as in the cases of Drummond and Stevenson. On the suppression of urine, it assumed the character of dropsy, and finally, after an over excitement of the intestines, it terminated in diarrhœa. Such transitions are frequently met with, where the patients are under no treatment. The mason, whose case was formerly mentioned, was voiding urine to the extent of fifteen or sixteen pints daily, when he was seized with the diarrhœa; after that, though he lived from four to five days, he did not make altogether a pint. The quantity of alvine excretion in that period was almost incredible. He had been much in the habit of taking opium, on this occasion he took it to a considerable extent, without any advantage.

Dr Rollo remarks, that "Three weeks before the General Officer's death, he entirely lost his

appetite, and his urine became apparently natural, and in quantity, did not exceed two or three pints in twenty-four hours, he gradually wasted, sunk under the disease, and died without any new symptom or particular struggle."* This is different from what generally happens. The urinary excretion seldom goes off without the accession of some new symptom; in other words, we can generally find out, what direction it has taken. In perhaps a majority of instances, it terminates in diarrhœa or in dropsy.

Diseases, apparently the most opposite, are sometimes converted into each other. I attended, some time ago, a man who had laboured for twenty-eight years under asthma. For the last ten, the fits were less severe; but he became subject to a cough, constant expectoration, and dyspnœa, which distressed him exceedingly. His last illness was a violent diarrhœa. It was ushered in by the same symptoms, as a regular attack of asthma; but during the diarrhœa, he had not the smallest complaint in the chest. The cough and expectoration left him, and he could sleep with his head as low, and breathe with as much ease and freedom, as at any period of his life.

* Rollo, page 128.

Diabetes, asthma, and diarrhœa are very opposite in their characters, gout is remote from all of them; yet Liger informs us that "many asthmatic patients have at the instant of the gout's seizing them, found themselves relieved from, and cured of their asthma."* Poupart, in giving an account of a dreadful scurvy, which prevailed at Paris, in 1699, remarks, that "old men and women were troubled with such violent fluxes, that the weakest died under them; but if they had strength enough to withstand them they were soon cured."†

Such metastases are extremely common, and lead to the conclusion, that as one disease is so easily, and so completely, convertible into another, there is perhaps, more unity in the origin of disease, in general, than has been imagined. The discovery of such a common cause would lead to the root in place of the branches, while our ignorance of it may explain, why radical cures, in some complaints, are so extremely difficult. If such a source exist, till it be discovered, practitioners must grope in the dark.

* English Translation of Liger's Treatise on Gout, page 54.

† Abridgement of Philosophical Transactions, Vol. V. page 457.

Aretæus has given a very excellent description of Diabetes, and has recorded symptoms, which since his time, have met with less attention than they deserved. He observes, that, if the urine of diabetic patients be suppressed, only, for a short time, "They swell in the loins, testes, and hips."* The author of a late work has been at great pains to show that by the words, which have been rendered, "lumbi, testes, et ilia," in the Latin translations, Aretæus meant to express, that a suppression of urine in Diabetes, caused "the bladder to distend downwards, side-ways, and upwards."

This is a very improbable conjecture. Aretæus wrote in too concise a style to have admitted such a round about way of expressing simple distention of the bladder. Is it not more probable that he meant to describe such cases as the present, where the suppression of urine caused the loins, hips, and SCROTUM to swell? An occurrence which I have met with oftener than once. Aretæus perhaps meant to describe how readily Diabetes is converted into œdema. Indeed, he tells us elsewhere, that "the disease called Diabetes

* Aretæus, Book II, Chap. 2. of Chronic Diseases.

is a species of dropsy, both in respect to its cause, and the habit of body induced; the place only from which the fluid issues constitutes the difference. In ascites the peritonæum is the receptacle, nor has the fluid any egress, but remains and diffuses itself there; on the contrary, in Diabetes, both the abduction of the fluid and colliquation correspond, the effusion of what is carried off is into the kidneys and bladder; this is likewise the case in dropsy when the disease takes a favourable turn."*

Phymosis, in the present instance, was a most distressing symptom. The prepuce had an appearance, as if forcibly drawn forward, and firmly tied with a ligature. It extended about an inch before the glans, and was twisted round like a screw.

Uniformity of effect is a strong presumption of the uniformity of cause. Phymosis is a very frequent attendant on dropsy and other diseases. In these instances, does it mark the same habit of body, as in Diabetes? When it arises from irritation, it can be removed by local applications, or by simply avoiding the cause. When it has

* Book II. Chap. 2. of the cure of Chronic Diseases.

gone a greater length, and is probably connected with a diseased habit, the same means have been employed for its removal, as I have found useful in the cure of Diabetes. " A discharge of blood, (from the parts affected or from the arm) proportioned to the strength of the patient, laxatives, low diet and abstinence from exercise."* Uniformity of success, attending a particular treatment, is another proof, that the diseases cured must have something in common.

In cases where phymosis cannot happen, there is, generally, some inflammation or uneasiness about the external orifice of the urethra.

Thirst, in a greater or less degree, accompanies almost every case of Diabetes. In, perhaps, more than one half of the cases of Diabetes, the thirst is extremely urgent, the patients describe it in the strongest language, and feel more distress from it, than from any other circumstance; yet, in a variety of other instances, it is not so severe; and thirst, in as high a degree, accompanies many other complaints.

Many cases of dropsy, accompanied with excessive thirst, if accurately traced to their origin, will

* Bell's Surgery, Vol. VI. page 59.

be found, to have been, originally, cases of Diabetes. Or, in other words, the dropsy was preceded by gravel complaints, which is the common way of expressing every derangement in the urinary excretion. For these, popular remedies are numerous, and some of them very agreeable, consequently, medical men are seldom consulted, till the disease begin to change its character. Dropsy is so easily ascertained, that an investigation into the patient's previous state of health is judged unnecessary; of course the early stages of that disease are too often overlooked.

In two of the most urgent cases of thirst, which I have ever seen, and where the patients indulged it to a very great extent, I could discover no corresponding evacuation. The quantity of urine and of fæces was inconsiderable. The skin was unperspirable, hidebound, and of a ghastly paleness. Even the lips were as pale as death; neither of them had almost any appetite for food; and their drink, in general, was common water. The one patient was a man, about thirty-four years of age, rather of a corpulent habit, and had been subject to acute rheumatism. This left him, and his principal complaints were, the thirst, pain and oppresion about the chest, and vomiting of blood.

The other patient was an unmarried female, about twenty-five. She had been long subject to cough and dyspnœa, and had monthly a profuse uterine discharge, of an extremely dark colour, and disagreeable smell. The last complaint had left her entirely for several months; but the others had become worse; and she vomited daily large quantities of clotted blood. In both cases, there had been considerable variety of treatment, but the only thing, from which the patients experienced the smallest relief, was venesection. This never failed to remove the vomiting of blood, and to relieve the oppression for a short time. The man bore the evacuation well, and scarcely ever felt himself faint. The woman, for the first three or four bleedings, bore it very ill; she continued weak and faintish all the afternoon. Yet, after the first, she was so sensible of the relief it afforded her breast, that the subsequent bleedings were wholly at her own desire. She assured me she could not exist without it.

In both cases, I was very much struck at the deficiency of blood in the small vessels on the surface, which give colour to the skin, and its great accumulation in the larger trunks. I never performed the operation of phlebotomy, in any in-

stance, where the blood flowed with so much force as in that of the man. The blood was extremely thin, and not unlike a mixture of port wine and water. On cooling, the crassamentum bore a very small proportion to the serum. It had a reddish white surface and very little tenacity.—The thirst in both cases is now greatly abated. They found relief from chewing the radix acori. It enabled them to pass the time with less drink, than they could otherwise have done.

I saw a man lately, who has laboured under a Diabetes for, at least, fourteen years, and who was scarcely ever known to ask a drink, not even, after eating voraciously of the saltest provisions. His appetite for food has seldom or never been satisfied, though he uniformly ate more than two ordinary men; every kind of diet was acceptable to him, and nothing disagreed with his stomach. His urine has always been very abundant; generally double, or triple the quantity of drink. It is sometimes pretty limpid, but oftener of a whey colour, and when of the latter appearance, it deposits a considerable white sediment.

This patient is extremely emaciated, though he possesses so much strength, as to be able to follow his business as a weaver. His skin has a singular

appearance. On the thighs, legs, and arms, the papillae are hard and enlarged like so many little warts. On the trunk the cuticle is thick, hard, and smooth. Here and there portions of it are broken off. These consist of a number of lamellae, from which, it would appear, that the epidermis is no sooner produced, than it dies, a new one is again formed below, and so on, in succession, till they loose their hold and drop off in a kind of cake. The extremities are generally cold and very destitute of feeling. The gums are red, spongy, and so deeply ulcerated, that a very large portion of the roots of the teeth is exposed. The teeth are covered with a thick crust like yellow ochre.

With regard to the history of his mind, I could obtain only a very imperfect account. At present he is very little better than an idiot. He stays with a distant relation, takes no management of his own affairs, and is treated, in every respect, like a child.

Since the above report was taken, the medical gentleman, who sees him occasionally, informs me that his diet has been diminished to a half or a third of what it was formerly, and made to consist more of animal food. The change has had a sa-

lutary effect; the skin has become more natural; the urine is diminished by a half; and his appearance in every other respect improved. An ill conditioned ulcer on one of his legs, has also assumed a more healthy appearance.

Bulimia frequently accompanies Diabetes. But though the two diseases are often connected, either of them can exist alone. Capt. Meredith had the voracious appetite three years and a half before the diabetic affection. "He had been employed in camp duties, and his appetite was then so good, or he ate so keenly, as to be taken notice of by his brother officers. During the diabetic affection, his appetite was variable, sometimes, unusually keen, and at odd times, as in the night." Thus the bulimia was great, and more distinctly marked, before the Diabetes commenced, than it was, when labouring under that disease. Dr Storer relates a case, where the canine appetite existed in March, but the Diabetes did not commence till July.* Dr Cleghorn distinguishes, very properly, between the feelings of real hunger, and the cravings which often accompany Diabetes. "The latter," says he, "are more uneasy and the uneasiness is less removed by taking food."†

* Rollo, page 258. † Ibid, page 159.

Dr Cullen remarks, that a voracious appetite FREQUENTLY accompanies Diabetes. Dr Heberden mentions generally, that "the appetite fails." Dr Bardsley calls "bulimia a very important symptom of a well marked Diabetes Mellitus." But the latter cannot be supposed to exist without the former. If the materials, of which sugar can be formed, are not taken into the system, there is no reason to expect the sweet taste of the urine. Animal food is therefore a rational prescription, as it cuts off the supply of new materials. But, if the general habit be not corrected, we only exchange one disease for another, and, perhaps, for one equally fatal. Some of the most obstinate cases have little of the voracious appetite. Even dyspepsia sometimes succeeds to bulimia, and the saccharine taste of the urine goes off; yet the patient is not the farther from danger. Such a metastasis often takes place before the disease proves fatal.

There is generally a greater desire to take in food, than a power to digest, hence, the heat and twisting in the stomach and bowels, or vomiting soon after meals.

From the contrariety of opinions on this subject, nothing very characteristic of the disease, in general, can be gathered. In some cases of pulmona-

ry consumption, especially, where that disease comes on slowly, the canine appetite is as distinctly marked, as in almost any case of Diabetes, and in some it continues to the very last. Mr Poupart in his account of scurvy, formerly mentioned, observes, that "the patients ate heartily till the last minute of their lives." The same thing has been observed by every other writer on scurvy.

There is a similarity of symptoms, in mild scurvy, to those we meet with in the more severe cases of Diabetes. "The first indication of the approach of scurvy," says Dr Lind, "is generally a change of colour in the face to a pale and bloated complexion; with a listlessness to action, or an aversion to any sort of exercise; the persons eat and drink heartily; their aversion to motion degenerates into an universal lassitude, with stiffness and feebleness of the knees, upon using exercise; they are also subject to breathlessness and panting; their gums soon after become itchy, swell, and are apt to bleed upon the smallest friction; their breath is offensive; they are subject to bleeding, not only from the gums; but are prone to fall into hæmorrhages from other parts of the body. Their skin feels dry and extremely rough, in some, it has an anserine appearance; but most

frequently it is smooth and shining. Many have a swelling on their ancles, which gradually advances up the leg, and the whole member becomes œdematous. These are the most constant and essential symptoms of this malady in the progress of the first stage."*

It may be remarked, in general, that, wherever there is an increased appetite, accompanied with thirst and emaciation of body, there will always be found other symptoms of a diseased habit.

There is generally a perversion of taste and an altered secretion of saliva, but nothing can be fixed on as peculiar to Diabetes. One complains of a salt, another of a sour taste; a third of a sweet; and a fourth of a bitter; with a fifth it is something indescribable, and probably compounded of two or more of the former. In the same person, there may be a variety at different periods of the disease, and often at different times of the day. Stevenson had no very prevailing taste; but complained of a tough disagreeable phlegm, which covered the fauces, and kept him constantly hawking and spitting. When this left him, as it often did through the night, to use his own words, his

* Lind's Treatise on the Scurvy, page 105.

mouth was as "hard and dry as a stick." In the present case, the production of this tough matter was so copious, that he was in the habit of taking a knife, and scraping it, in great quantities, from the tongue. A parched mouth, viscid phlegm and a depraved taste certainly accompany a majority of cases; but they are not peculiar to Diabetes. In the more early stages of that disease they are often not to be found. They are probably symptoms of the fever that attend, rather than of the disease itself. In most of the cases related by Dr Rollo and his correspondents, the pulse was uniformly above 80, and not unfrequently, above 100, which may account for the altered secretion of the saliva.

A whitish tongue, with bright red edges, though mentioned by Dr Rollo, is not a very general symptom, particularly, the last circumstance. I have seen it only in two cases, and even there it was not more striking than in some other diseases. The tongue is, perhaps, generally, of a whitish colour; but I have also seen it in different instances, with a dark brown stripe in the middle, and with the edges white and bleached as if they had been boiled. This was very much the case in the

present instance, and the gums, and angles of the mouth were white as if covered with milk.

"The gums," says Dr Rollo, "are red and swelled with the teeth feeling as on edge from acids and loose in their sockets." In Stevenson's case they were remarkably so. The gums were so extremely tender, that they could not be touched with the point of the finger, without making them bleed; but they had less or more of this all his life, and I have seen many cases since, where the gums were equally tender and ulcerated, and where, the reddish purple areola was as distinctly marked, as in his. In some of these, there was a great defect of urine. Ulcers are ill to heal in diabetic patients, hence people who have tender gums, at any rate, have them aggravated by the accession of this disease. No general conclusion can be drawn from the state of the gums alone; but along with other symptoms they seem to point out that state of body which very often accompanies Diabetes and other diseases.

Dr Cleghorn has remarked, with regard to one of his patients, that he was "the father of several children, but since he has been seized with Diabetes—Coitus nullus. Erectum nunquam: ne qui-

dem semel rigescit."* Mr Thomas, in describing the case of a watch-maker, takes notice, that "he had lost all venereal appetite, neither the power nor will remaining."† This too was the case with several of Dr Bardsley's patients, and is, perhaps, a more common occurrence, than we are led to suppose, from the reports which have been published. The inquiry is rather indelicate, and is often prevented by the presence of attendants. When the present patient was asked, if he retained the desire and power for venery, his reply was, that "he had not been troubled with any thing of that kind for several months." It was wanting in Stevenson from early in July till the middle of September.

THIS case is principally useful in illustrating the history of Diabetes. It was probably too late for any treatment to have been of service.

* Rollo, page 168. † Ibid, page 337.

RECAPITULATION OF SYMPTOMS.

THE refering every disease to a particular part of the body, has an air of precision, which is apt to impose upon medical men. Having discovered this local affection, they frequently overlook circumstances, of the highest importance. In Diabetes, the arid skin, the foul mouth, the constipated bowels, the vertigo, the indistinct vision, the chilly state of body, the depression of spirits, and various other apparently remote symptoms, are, perhaps, of as great importance as the altered secretion of the urine. The complete recovery of the patient, depends on the removal of all of them. By overlooking these, practitioners have often been deceived. They have imagined, they cured the patient, when they only relieved one symptom by aggravating another. In the last case the diabetic affection was removed by the occurrence of dropsy, and dropsy, by inducing an incurable diarrhœa.

In the preceding narratives, I have carefully noted every circumstance that came within my observation; and I was not a little surprised, after

collating the whole, to find the cases so exactly alike. In the remarks, subjoined to the cases, I have collected and arranged such facts and observations, as occurred during the treatment. In these, the symptoms have been discussed individually, and the frequency of their appearance in Diabetes and in other diseases pointed out. In the subsequent paragraph, they are brought into one view, so as to enable the reader, to form a comparison, between the cases already narrated, and those which follow.

The appetite was better than in health; uneasiness in the stomach after meals; thirst urgent; the mouth dry and parched; tongue white and foul; tough disagreeable mucus in the throat; depraved taste; skin dry and unperspirable; considerable emaciation; weariness and aversion to exercise; loss of strength; pain and weakness in the region of the kidneys; irregular, generally costive, state of bowels; urine more than natural in quantity; variable in taste and smell, but not urinous; frequent and urgent desire to make water; some degree of inflammation and uneasiness, about the external orifice of the urethra; loss of virility; chilly state of body; cold feet; a tendency to œdema; heat and uneasiness in stomach and bowels; acid

eructations; flatulence; eyes muddy and painful; indistinct vision; vertigo; head-ach; dyspnœa on the least exertion; gums spongy and ulcerated; weight about the precordia; a tendency to sigh; listlessness; mind weak and peevish; spirits greatly exhausted.

The preceding enumeration of symptoms will be found to correspond, very exactly, with the hypochondria and hysteria of Mandeville; the English malady of Cheyne; the spleen and vapours of Robinson; the febricula of Manninghame; the nervous diseases of Perry and of Whytt; the chronic weakness of Withers; and the nervous temperament of Trotter. The particular state of body which they have described, has a variety of symptoms, and as one or other of these, happened to be most conspicuous, the disease was named accordingly. I may remark, on the whole, that I have never met with any one of these symptoms distinctly marked, without being accompanied with several of the others.

Physiology.

As Diabetes has been generally attributed to some defect in the processes of digestion and assimilation, it may be proper to enquire into the nature of these, and some of the other functions of the animal œconomy. Accurate physiology is the only sure basis, of a rational pathology, and of a successful practice.

The organs, essential to life, in its simplest form, must be distinguished from those added for the convenience of the higher orders of animals.

Were we acquainted with the anatomy of the human species only, we would naturally suppose, that the liver was an important organ in the animal œconomy. The idea is supported by its size, situation, and the effects produced on the system, when it suffers from disease. But we see other classes of animals, where life is perfect without this appendage. The same thing may be said of almost all the internal viscera.

Two things appear to be essentially necessary to the existence of every animal—a supply of food, and a supply of air. All are provided with a set

of lacteals, calculated to absorb and digest their aliment; and something, which performs the office of lungs.

Respiration being found in every species of animals, shews, that it is not present in the higher orders, as connected with the functions of the brain or of the heart, since it is met with, where neither the one nor the other exists.

The stomach with its appendages in the higher classes of animals, and the simple lacteals in the lower, perform the office of digestion. They reduce the aliment to the state of chyle, and transmit it into the system. But chyle is not blood. This important change is accomplished by the organs of respiration.

Every juice in the animal fabric is prepared by a set of organs destined for the purpose; we are not to suppose that the preparation of the blood is left to chance. It must be prepared in all animals, and the organs of respiration, are never wanting.

The same order exists in the vegetable kingdom. The roots absorb and digest the aliment; the leaves convert it into the peculiar juice of the plant.

In spring, before the leaves are formed, the ascending sap of one tree differs very little from that

of another. This shews, that in the state of chyle, it is a liquid nearly common to all. But the leaves are no sooner evolved than the juice of each acquires its own peculiar qualities. This fact is finely illustrated by the practice of ingrafting; from which it is evident, that it is the top, and not the roots, which gives the peculiar character to the plant. Chyle is so far common, that the roots of the same crab can furnish juice equally convertible into all the varieties of apples and pears. By analogy these facts may be easily transferred to the animal œconomy.

The lungs finish what the digestive organs have begun. The whole process may be divided into four stages. By manducation and mixing with the saliva the food is reduced to a pultacius mass; by the action of the stomach and union with the gastric juice it is converted into chyme; after mixing with the bile it is taken up by the lacteals and transfered to the sanguiferous system; by the lungs it is converted into blood.

The lungs have a double office to perform; to assimilate the new materials, and to preserve the blood in a healthy state.

Every organ is put in motion by the stimulus of the matter it conveys. Stimuli are of two kinds;

the stimulus of bulk common to all, and the peculiar stimulus of the matter, which belongs to each individual organ. The intestines are put in motion by the refuse of the aliment, by the bile, and by the excretions thrown out from the vessels on their surface. A person in health has a stool generally once a-day, so that the matter, on an average, must have taken twenty-four hours in performing its passage. If the stimuli be increased the time is shortened.

The blood receives a peculiar property from the contact of air in the lungs, which renders it the natural stimulus of the left side of the heart, the aorta, and its branches: in circulating through the rest of the body, it acquires an opposite property, which renders it stimulent to the right side of the heart and the pulmonary arteries. Thus the heart and lungs act reciprocally, and the circulation of the blood is the consequence.

A similar reciprocity exists between the nervous system and the sanguiferous. In other words, the former possesses excitability, the latter excitement. The brain and nerves cease to act, if deprived of healthy blood; the heart and arteries, if deprived of nervous sensibility. The blood supplies energy to the nervous system, the nervous

system supplies excitability to the heart and arteries, and food and air give stimuli to the blood: the former the stimulus of bulk, the latter the stimulus peculiar to that fluid.

The secretions are performed by a variety of organs. These may be individually compared to the stomach and intestines. Each receives its food from the blood, digests it, and throws out a substance, peculiar to itself. If the blood be healthy, it proves a stimulus, and affords employment to all of them. If their functions are duly performed, they assist in purifying the blood, and in preserving the balance between the lacteals and the lungs. If more be taken up by the former than the latter can assimilate it is thrown off by the excretories.

The blood supplies materials for increasing and repairing the solids, and a particular set of vessels is destined for that purpose. Another set of vessels takes up whatever has become useless in the system, and carries it back to be renovated by the lungs, or discharged by some of the outlets.

If the roots digest and the leaves assimilate the food of plants, the one must always bear an exact proportion to the other. When a plant is transferred from a rich to a barren soil, its leaves are neither so large nor so numerous as before: if

through the summer, a part of its nourishment be taken away, a similar proportion of the leaves decay and fall off. On the other hand if transplanted from a barren to a fertile soil, the leaves are proportionally augmented both in number and in size; or if additional nourishment be supplied after the leaves are formed, the equilibrium between the two systems is preserved by an eruption of new leaves. It is not so with animals, though the quantity of nourishment be increased no augmentation in the extent of the lungs can follow. This apparent defect, however, is made up by various outlets. The vessels which open into the lower part of the intestines, the kidneys, and the cutaneous exhalents are the principal means employed, for preserving a due balance between the two systems; in other words for preserving the health of animals. It must be remarked too, that though no augmentation in the extent of the lungs can take place their action is often quickened, so as to do more work in a given time.

Pathology.

THE loss of balance between the digestive and assimilative organs may be produced two ways. The lungs may be impaired in their action, while the lacteals go on in their former course; or the action of the lacteals may be increased, by a morbid irritability in themselves, or by some preternatural stimulus in the matter they convey; in either case the equilibrium between the two systems is destroyed and disease produced.

If, while a plant is in foliage, any considerable number of its leaves be destroyed, the effects of the violence is soon perceived. The new shoots cease to extend; the bark becomes dry and withered; the fruit is marred in its progress; the whole system assumes a sickly declining appearance. This shows the vast importance of the leaves; without them, the vigour of the plant, the fertility of the soil, the due application of heat and moisture, with every other requisite of vegetation are of no avail.

The same observations apply with equal force in the animal œconomy. We see every day persons

taking great quantities of food, and yet their bodies are rapidly wasting away; or their debility increasing in proportion as they eat. Food may be received into the stomach, and be taken up by the lacteals, and yet be of no advantage to the animal. If there be more chyle than the lungs can assimilate, it only remains an incumbrance on the system, or is discharged by one or other of the excretories.

When nature has no need for a new supply, the door, in general, is shut against it. This, however, is not always the case. In some diseases the receptive power is not only continued, but even increased, while the assimilative powers remain at, or below, their ordinary level.

It has been remarked, that the lungs have a double office to perform; to assimilate the new materials, and to preserve the blood in a healthy state. The blood is deteriorated in proportion to the time it is absent from the lungs. During the application of cold, the circulation is slow, the surface and the extremities become livid, the blood is long in being returned and suffers greatly. In some the power of the lungs is such, as to preserve health, in almost any circumstances; in

others, the slightest exposure destroys the balance and induces disease.

We have thus pointed out two sources of disease; the one arising from cold or any other means which can retard the circulation, the other from an inequality of action between the lacteals and the lungs. Disease is generally begun by the former and protracted by the latter. When the lungs, in repairing the blood already in the system, have more to do than they can well perform, they can ill bear the introduction of new materials.

It has been observed, that the nervous and sanguiferous systems act reciprocally. The blood may be deteriorated, and yet support life in an imperfect manner. The vessels which increase and repair the solids may be in want of proper materials, though the system be overcharged with blood. The nervous system, being deprived of its natural support from these vessels, acquires a depraved sensibility, and being acted upon by an unnatural excitement, all the phenomina follow, which we have described, as attending a diseased habit. The greatest number of the excretories are idle from want of arterial blood, the only stimulus which can call them into action. The liver,

receiving its stimulus from venous blood, has more to do than in health, hence the origin of bilious complaints, which with low spirits, and prostration of strength generally mark the first stage of disease.

That the animal system has a power of recovering itself from disease, has been believed and acted upon in all ages. Under the title of the vis medicatrix naturæ it was carried to such an extravagant height by Stahl and his followers, that latter pathologists have been almost ashamed to own such a principle, though their practice daily showed their belief in it. By the term reaction modern authors convey the same idea.

Reaction, presupposes a previous opposite action, a power residing in one part of the system, and resistance in another. To form an accurate idea of its import, we must enquire; What was the previous opposite action? Wherein does the power of reaction consist? What is the resistance to be overcome?

I. The opposite action is the application of cold, or any other means, which can retard the circulation or increase the quantity of blood. Thus the operations of the pulmonary system are thrown behind, and the patient labours under that train of

symptoms, which we have described as constituting the first stage of disease.

II. The power of reaction resides in the solids. The blood, by being long absent from the lungs, acquires a property which renders it stimulant to the right side of the heart, and to the pulmonary arteries. By their action, the blood is poured into the lungs, where it receives a new stimulus, and is sent to the left side of the heart, circulates through the body, and is again returned to the lungs. This rapidity of circulation, to make up for the time which has been lost, is fever. The oppression on the lungs, if remarkable, becomes dyspnœa or asthma.

If the system possess sufficient vigour, the reaction goes on to a proper crisis, that is, till the blood be restored and become the natural stimulus of the nervous system, the proper food for the excretories, and for the vessels which repair the solids. In place of fever, the balance is often restored by a critical evacuation. If the superfluous matter take to the intestines, it produces diarrhœa; if to the kidneys Diabetes; if to the uterus menorrhagia; if to the cutaneous exhalents profuse perspiration. All these evacuations, to a certain extent, are salutary. They often prevent

fever, shorten its duration, or render it more mild. If the reaction fail to produce a salutary crisis the system falls back, collects new vigour, and resumes the conflict, as in intermittent fever and other periodical diseases. In other instances such as hypochondriasis, it repeats the same thing over again, or tries other means of relief, and is thus said to counterfeit every disease. That is, it employs many efforts, to throw off the incumbrance; but is generally unequal to the task. After a longer or shorter struggle, a confirmed phthysis, Diabetes, diarrhœa, dropsy, or some other disease terminates the patient's sufferings.

In a great many instances, the practitioner has to contend with diseases of a different description. His object is not to excite reaction, but to render it more moderate. Inflammation arises from reaction coming on too suddenly. If a limb, after exposure to a great degree of cold, be suddenly warmed, inflammation, and perhaps even gangrene are the consequences. When a part of the body has been cold, and wanted, for a while, the stimulus of arterial blood, if the circulation be suddenly restored, it is apt to suffer the same fate. Inflammation, in the last instance, arises from the same cause as in the first; from the too sudden applica-

tion of heat. If proper means had been used, to repress reaction, the organization of the part might have been saved.

III. The resistance resides in the fluids. If the action of cold, or any other cause which retards the circulation, be long continued, or, if the patient take too much food, the solids are overpowered, and no effective reaction can take place. The quantity of the blood is so far above the power of the lungs, that little or no arterial stimulus can be communicated to it. The system, after a longer or shorter struggle, gives up the contest, and the unhappy victim either dies, or drags out an existence, more dreadful than even death.

When reaction recurs from time to time, but is inadequate to restore the system, diseases are called chronic. When it comes on rapidly, or is too violent in its exertions, they are denominated acute.

Practice.

The division of diseases into acute and and chronic, ought to be carefully attended to. In the one instance, it is the business of the practitioner to excite and aid reaction; in the other, to moderate and direct its course; in both, to see that the end be fully accomplished, before the restorative process is relinquished.

In some, the morbid state of body no sooner occurs, than reaction commences; in others, it is only after a long train of disagreeable feelings, that any thing like a serious attempt takes place. In some instances, the business is accomplished at once; in others, it can only be finished by repeated efforts. In one, the restoration goes on without much pain, or any serious local affection; in another, it no sooner commences, than some particular part of the body is threatened with destruction. It is this last species of disease, which has laid the foundation for nosology, and occupied, almost exclusively, the attention of medical men. It has led them to neglect, or treat as imaginary, every symptom, which could not be distinctly re-

ferred to some particular part of the body. Their whole attention was directed to one object; fortunately, however, the evacuations necessary to relieve that particular part, contributed to the relief of the whole system. The subsequent observations are principally intended to illustrate the treatment of chronic diseases. As an object of the first importance, we shall begin with

DIET. From the very nature of the disease, abstinence becomes an indispensible part of the practice. This doctrine, however, is often very contrary to the feelings of the patients, who are apt to urge in their defence, that nature is the best judge of what is necessary for their support. They feel weak, they have a strong craving for food, and they can see no good reason, why they should be deprived, of what makes other people strong. These arguments are frequently repeated, though every meal might convince them, that it has added to their burden and not to their strength.

We have remarked, that the circulation is supported by two kinds of stimuli, the stimulus of bulk, and the more important stimulus communicated by the lungs. In chronic cases, the last of these is always deficient, and the patient naturally

wishes to supply the want by increasing the other. In doing this, he may please himself for the moment, but he ultimately increases the disease and renders his feelings more disagreeable. His next resource is the bottle, which, if it do not remove the complaint, affords a temporary relief to their sufferings.

In other instances patients are troubled with dyspepsia. They tell you they should be well if they never took food, or that they have no complaint, but want of appetite. Their account of the matter is not always correct, I have often been surprised to find, on adding the items of a day together, that they came little short of what a person in health might be expected to eat. Robinson remarks, that people in this disease have often a want of rectitude in their actions; I have often found a remarkable want of truth in the accounts they give of their eating.

Dyspepsia is of two kinds. Without a diseased habit, it may arise from a want of excitability in the stomach, or a want of stimulus in the food. Accompanied with a diseased habit, it is the sign that reaction has fairly commenced. Nature, before she begin to repair what is already in the system, not only shuts the door against any new supply;

but also causes the stomach reject its contents. The treatment of the two complaints must be very different. In the first instance, the use of tonics, and a change of diet will accomplish a cure; in the last, a cure is not to be wished for, till the general habit be corrected, when the appetite either returns of itself, or may be promoted by tonics and a proper diet.

If patients plead the cravings of nature in defence of their eating, the practitioner may point out her example in rejecting all supply while the restorative process is going on. We have elsewhere pointed out, that the symptoms and state of body, which precede acute disease, are the same with those which accompany, or rather which constitute chronic disorders. The only difference is in their duration. In the treatment of chronic diseases, the business of the practitioner is to imitate the steps by which nature accomplishes her purpose. Of these a rigid abstinence is one of the most conspicuous. Unless patients are willing to forego present gratification, their prospects of future health must be very faint.

Emetics. In the order of nature, evacuating the contents of the stomach is another preparatory step. The sickness, which destroys appetite, ge-

nerally, produces vomiting. To imitate this salutary process, emetics are used, and there are few medicines, from which more beneficial effects may be obtained. That they have been improperly administered, and done harm, is not to be disputed. But this may have been the fault of the practitioner, and not of the medicine. Their good effects are not confined to the mere evacuation of the stomach, they rouse and relieve the whole system. In the commencement of reaction, they may be repeatedly given with advantage. Mere debility ought to be no obstacle, If there is any serious organic affection of any of the internal viscera, they must be administered with caution.

PURGATIVES are necessary to remove that tupor of the intestines, which attends the commencement of reaction, and is often present during the whole period of the disease. More unanimity may be expected, with regard to this part of the treatment, than any of the rest. The way has been admirably paved by Dr Hamilton's ingenious work, on the utility of purgative medicines.

When the contents of an organ are of an uncommonly acrid, or irritating nature, an increased action is the consequence, and that action is continued, till the offending cause be removed, or, till

the energy of the part be overcome. The whole vascular system is governed by this law; but it is particularly observable in the intestines. On an average the matter takes twenty-four hours in performing its passage, but if a cathartic be added, what is received by the mouth will often be discharged in the course of an hour.

A spontaneous diarrhœa proves a crisis to other complaints. This hint from nature was too important to be neglected. Purging was therefore resorted to with great confidence. It was thought, that if a spontaneous discharge could produce such beneficial effects, the same thing might be accomplished by art. That an equal quantity of fœces should always give an equal relief, a short experience was sufficient to show the mistake; but the cause of the failure was not so easily discovered.

It is one thing to hurry on a quantity of undigested food from the stomach and upper parts of the bowels, and discharge it per anum, and another, to produce an evacuation from the vessels, which receive their contents from the blood, and pour it into the intestines. An ounce, evacuated by the latter process, may perhaps afford more relief to the system, than a pound by the former. The one is the natural diarrhœa the other the arti-

ficial. It often happens, that both can be excited at once, and in this case, purging, where there is plethora, uniformly does good. A natural diarrhœa may be induced a little sooner, by throwing an acrid matter into the intestines, and stimulating the mouths of the vessels. This, if there be any considerable stimulus in their contents, may be sufficient to begin the process, but if that should not be the case, it can do little good. The action of purging, on the individual vessels, may be aptly compared to the irritating of the sphinter ani, to produce an evacuation from the colon. If the colon be nearly ready to act, from the stimulus of its contents, the stratagem may succeed, but if the contrary is the case, it cannot.

Purgatives may act different ways. They may simply evacuate the contents of the bowels; or by irritating the mouths of the vessels, which open into the intestines, they may produce an evacuation from the sanguiferous system; or they may be dissolved in the stomach, taken up by the lacteals, circulate with the blood, and be finally deposited in the intestinal excretories. Agreeably to the last supposition, each of these vessels is acted upon, by the extraneous matter, in the same manner, as the

whole intestinal canal is stimulated into action by a common purgative.

It has been frequently remarked, that some purgatives do more good than others, though both appeared to operate equally well. Some people know what purgative does them most good; while others suppose, that they derive more benefit from them, when they remain a considerable time in the bowels, than when they pass off suddenly. Hence they prefer taking them at bed-time. When managed in this manner, a considerable portion of them may probably be conveyed with the chyle, so as to act on the intestinal excretories, and thus imitate a casual diarrhœa. This idea is strengthened by the fact, that when neutral salts and several other purgatives are taken, they act very powerfully on the kidneys, and cutaneous exhalents, as well as on the intestines.

If the salutary effects of purgatives arise, principally, from evacuating the sanguiferous system, this might often be done, more safely, and expeditiously, by other means. Bad effects may be produced by continuing the action of purgatives too long. If the intestines are sound, though a cathartic be administered, its operation is soon over, and matters go on as formerly; but if one

dose be applied after another, till the intestines are denuded of their usual mucus, and take on a morbid action, almost any substance whatever will be adequate to continue the discharge. Even the natural aliment, which used to take twenty-four hours in performing its revolutions, will be discharged almost as soon as taken. Thus what would have been salutary in a moderate degree, by being pushed to excess, becomes an incurable disease. If evacuation be necessary, it is the business of the practitioner to direct its course, so as to do least harm to the solids.

It would be an important, but difficult investigation, to distinguish what part of the fœces is deposited by the vessels, which open into the intestines, and what part passes down from the stomach. From a variety of observations, I am apt to think, that the former of these is much greater than is generally supposed. I attended, some time ago, a girl in a very tedious fever. During the whole period, she had a troublesome diarrhœa, and had used a variety of purgatives. The discharge was of a brown disagreeable colour and excessively fetid. She had taken no victuals, and her body was very much wasted. After the crisis, and before she took any food, she had two or

three copious stools, of a due consistence, and perfectly natural, as to smell and colour.

Can it be supposed, that such a quantity of fœces could lodge in the intestines during five or six weeks, and be voided as from a person in health? I have seen the same thing frequently since, and have always been at a loss how to account for it, except, by supposing, that fœculent matter consists chiefly of a deposition from the surface of the intestines. During the fever, all the excretions were in a depraved state. The foul matter voided in the diarrhœa, might be the vitiated excretion thrown into the intestines. The two or three stools, at the crisis, might be the result of a natural action in these vessels, after being supplied with healthy blood. The re-appearance of natural stools is a pretty certain mark of returning health.

Diuretics are employed as another mean of relieving the system. In some constitutions a few grains of nitre, or even a draught of spirits and water will produce a discharge of some pints of urine. In this case, I suppose, the nitre and spirits are taken up by the lacteals circulated along with the blood, and deposited in the kidneys. Thus crude unassimilated particles may act on the

kidneys, in the same manner, as the cathartic did on the intestines. The effect, however, is sometimes so instantaneous, as to have induced a belief, that there is a direct communication between the intestines and bladder. Dr Darwin was most decidedly of this opinion, and relates some experiments, which give, at least, a plausibility to his theory.

An increased discharge from the kidneys is often salutary. In different constitutions, food and drink act differently. What proves diuretic in one is not so in another. After the kidneys have been long stimulated into over action, and stripped of their natural mucus, they become so irritable, that what was begun with an over stimulus, is continued by one greatly inferior. This appears to be the real nature of Diabetes. Whether it be sugar or not, that carries on the increased action, it will always be a prudent step, in the commencement of the treatment, to change the diet completely. By this plan, there is at least a chance of avoiding the unnatural stimulus, and of rendering the disease more mild, till the general habit be corrected. The difference, between a casual and permanent Diabetes, consists in the constancy of the cause. The same thing may be said of a diarrhœa. If

only one purgative be applied, its effects are soon over, but if it be repeated, time after time, the discharge is kept up, and the system suffers the same waste, as under Diabetes.

DIAPHORETICS. The state of the skin deserves particular attention. It is in this quarter, that the first impression of disease is generally made, and we have no security of the system being fully restored, till the skin become natural in its appearance, and resume its functions. To accomplish this object, diaphoretics have been resorted to and have often done good.

During the prevalence of the humoural pathology, the idea of correcting the fluids, by purging off the peccant matter from the system, led practitioners to observe carefully the state of the excretions. Though the object they had in view was often fanciful enough; yet their laborious research for medicines to accomplish certain purposes, and their attention in observing the effects they produced, have done much to the improvement of medicine; it is doubtful, if the nervous pathology, and the doctrine of the solids have done more.

The experiments and speculations of Sanctorius, and his followers, led practitioners to observe minutely the state of the skin, and to estimate accu-

rately the cuticular discharge. The study was important, but like other fashions, it was carried to too extravagant a height to be lasting. The spasms of Cullen had the same effect, and were useful in recalling some efficient medicines, which had been almost banished the service. The spirit of system, has, in all ages, been the animating principle of investigation.

Antimonials and ipecacuanha were the principal diaphoretics, which I have used, and have never pushed any of them to a great extent. In the early stage of the complaint vomiting, succeeded by powerful diaphoretics, will in most instances effect a cure. Late in the disease if we attempt to accomplish our purpose by them alone, we often fail in correcting the general habit. When the cuticular discharge is excessive, for that too is a symptom of the same state of body, the practitioner must determine, whether there is a probability, of nature's being able to accomplish a cure in that way, or if it is necessary to change its course. If he determine on the former, diaphoretics are to be used, in the same way as we cure a diarrhœa by purgatives; if on the latter, he must make up his mind, as to the best manner of effecting a metastasis. The art of medicine consists in conducting

the disease before us, to a salutary crisis; or in exchanging it for another, which we conceive to be more manageable.

To effect a determination to the skin, some attention to the temperature of the body is necessary. Where reaction is languid, and a chilly uncomfortable state of body prevails, increasing the warmth by clothing is of essential service. The body should be wrapped in flannel. In slight cases, simply confining the patients to the room may be sufficient; but where the disease is of long standing, and obstinate in its nature, confinement to bed becomes absolutely necessary. A want of attention to this circumstance will frustrate every other endeavour.

It would appear, that there is a certain range of temperature, in which, the skin can perform its functions. If the temperature be below a certain point, perspiration stops, and disease is induced; if it rise above a certain point, perspiration is also prevented, and the reaction or fever is increased. If the temperature of the body sink below the standard of health it must be elevated, if it rise above that it must be depressed. The first is done by increasing the warmth of clothing, by confinement to a room, or by confinement to bed, the

second by evacuation, by cold effusion, and by exposure to the air.

These, however, must be applied with caution. If heat be suddenly applied, too great a degree of reaction is induced, and the patient may suffer from acute disease: if the temperature be too suddenly repressed, particularly by the application of cold to the surface, the system may be obstructed in bringing its work to a salutary crisis, and the patient may afterwards linger under a chronic disease. Fever can never be repressed successfully, and with impunity, except by substituting an evacuation. After the cold effusion, there is nothing more common, than for the patient to have a profuse perspiration. If this happen, the practice never fails to do good. In applying cold, the object is to moderate, not to destroy reaction.

VENESECTION, though it has been practised since the earliest accounts of medicine; yet there is no subject, on which, medical men are less agreed. There are few diseases, where it has not been tried, and proclaimed, as a sovereign remedy; while on the other hand, it has been almost, as universally condemned. Both parties plead experience in support of their doctrine, and bring

forward a train of opposite facts and arguments, which it is no easy matter to reconcile.

I shall confine the following observations to my own experience, and to the manner, in which, I have been accustomed to account for certain phenomena.

According to the period of reaction different results may be expected. Taking the patient's account of the matter, he finds himself greatly the worse of bleeding, at one time, and as much the better of it at another. If the patient's feelings are to be the rule of conduct, the practitioner finds himself sadly bewildered. If he has an object steadily in view, he disregards present effects, and calculates on ultimate success.

At or before the commencement of reaction, the patient labours under great prostration of strength, dejection of mind, languor and depression of spirits. The blood has lost its arterial stimulus, circulation goes on slowly, the nervous system sinks for want of excitement, and the patient feels as if the whole frame was falling rapidly into dissolution. If blood be taken at this period, he almost uniformly finds himself the worse for it. His strength and spirits are farther depressed, and he can hardly be prevailed on, to submit

to a repetition of what he supposes has done him so much harm. Some knowing neighbour observes, that he had more need of blood poured into him, and thus, confirms his aversion.

We have remarked, that the circulation of the blood is the consequence of its stimulus on the heart and arteries. At the commencement of reaction the patient has the stimulus of bulk, but the arterial stimulus is deficient. The vessels are languid and apparently devoid of elasticity, so that they do not readily accommodate themselves to any considerable change in their contents. Before venesection is performed the circulation scarcely reaches the extreme vessels. The brain is in want of a sufficient supply of arterial blood to carry on its functions with vigour. After venesection, especially if the person remain in an erect posture, the blood does not reach the brain at all, and fainting is the consequence. By bringing the body to a horizontal position, the circulation has not the gravity of the blood to oppose, the brain is supplied, and the patient recovers. In some severe cases, even change of position, is not sufficient to prevent or remove the fainting. The patient remains insensible and all around are thrown into consternation. At other times, the patients are

sensible, but unable to speak or move, and expect every moment to be their last. The practitioner, if he judges from the feelings of the patient, is confounded, and requires no arguments to convince him, that he has mistaken the complaint. In such cases the buffy coat, the popular proof of the propriety of blood-letting, is generally wanting.

After this supposed blunder, to make amends for the loss, it is ten to one if they do not run into the opposite extreme, and exhibit too freely wine, spirits, and cordials of every description. By these a sufficient degree of reaction is brought on, and the patient recovers, but no thanks to the doctor.

In other instances, by the imprudent exhibition of stimuli, reaction is induced too quickly, and the patient soon feels oppressed about the chest and is seized with stitches. This is supposed to be a new disease, and receives a name according to the place affected. The symptoms being distinctly marked, all parties are agreed with regard to the propriety of venesection, and the distress of the patient requires that it be done immediately. The attempt is made, and in place of feeling faint as before, he bears the operation well, and is relieved by it.

The relief, however, is but of short duration. The resistance being diminished, reaction goes on with more violence, and the patient is worse than ever. The blood, as yet, may probably have nothing of the inflammatory crust to justify the procedure. The practitioner is again bewildered. He begins to suspect, that there is perhaps more of spasm than of inflammation, and as the patients never fail to be troubled with wind on these occasions, this has to bear its part of the blame. Opium, antispasmodics, antihysterics are next tried; but the patient often receives advantage from none of them.

It is hardly to be expected, that the same practitioner, after being so dreadfully disappointed in his two first attempts to relieve his patient by venesection, will try a third. The patient either dies, or has a tedious recovery, whatever way it happen, the bleeding is sure to be blamed.—The case becoming more alarming, perhaps farther advice may be required. Another practitioner, with a little more experience than the former, may venture on a third bleeding, and, if he be not of the timid cast, he may make it copious. It acts like a charm, the patient feels instant relief. The blood has the buffy coat. The patient continues

well for an afternoon, a day, or a night; the pain returns, the blood-letting is repeated; and health, after a short but severe conflict, is completely restored.

I have been in the habit of comparing these effects of venesection to the action of the uterus. In the commencement of uterine action, if the membranes give way, and the waters be discharged, the uterus often ceases to act for a considerable time, and it is not till the elasticity of that organ accommodate itself to the diminution of bulk, that real labour takes place. This inactivity of the uterus may be aptly compared to the inactivity of the arterial system in the beginning of reaction. When the arterial stimulus from the lungs is slowly applied, the system can ill bear the loss of bulk.—When uterine action is going on briskly, the bursting of the membranes gives a short relief; but it almost never fails to be followed by more powerful labour than before. This resembles the effect of venesection in the increase of reaction. The arterial stimulus is so quickly supplied, that the stimulus of bulk must be diminished from time to time, till the equilibrium between the pulmonary and sanguiferous systems, is restored.

Though the effects of venesection be very op-

posite in different stages of reaction, yet they forward the same end. The first bleedings, may often appear to do harm, but are as necessary to a cure as the last. The object of the practitioner, in the first instance, is to excite reaction; in the second to promote and direct its course. In some, without diminishing the quantity of blood already in the system, reaction would never commence; in others, reaction is spontaneous, and sufficient to restore the whole mass; but, if some of the outlets be not excited at the same time, so as to moderate the bulk, some organ, perhaps essential to life, is sure to suffer.

When there is acute pain in a particular organ, with increased arterial action, the practitioner can never be at a loss how to proceed. But it often happens that the pain is removed, by a few bleedings, by the use of opium, or perhaps it never was so fixed or severe, as to excite much attention. These are the cases where the patients are most likely to fall a sacrifice to the disease. In some instances this happens suddenly and unexpectedly; in others they languish for weeks or even months: in some, as in Drummond and Stevenson, they apparently recover, but it is only to become the victims of a still more fatal disease.

In cases of inflammation, where there is no incurable organic affection, if evacuation be carried a sufficient length, the recovery is rapid and complete. But the practitioner ought never to dismiss his patient, till he is certain, that every symptom is removed. If the patient wish to remain as he is, and trust to nature, he should be informed of his danger. The practice of dismissing patients in a state of convalescence, is often attended with the most pernicious consequences.

It is not sufficient that patients be bled till the more urgent symptoms are removed. After this, they often remain weak and languishing; subject to cold shiverings, on the least exposure, with a universal tremour; pulse sometimes quick and full oftener small and indistinct; tongue very white; a want of regularity in the excretions; generally one of them in excess and the rest deficient; a want of sleep, with universal restlessness and anxiety. These symptoms are generally attributed to the loss of blood, and we are told that nothing can remove them, but time and nourishment. To prove the fallacy of these assertions it is only necessary to enjoin abstinence, and bleed the patient again. The relief obtained from venesection, in these circumstances, is not less striking, than in

any other stage of the disease. The blood is always inflamed, and, on cooling, exhibits a very thick buffy coat.

If the evacuation be carried a sufficient length, the cold shiverings and tremors are removed; sleep is restored; the pulse becomes soft and regular; the excretories resume their healthy functions; the patient experiences great relief in his feelings, and an uncommon degree of mental serenity and cheerfulness succeeds.

With regard to the propriety of venesection, medical men have laboured under various prejudices, which a more extensive experience would probably have removed. I shall enumerate a few of the most remarkable of these.

I. It has been pretty generally believed, that if taking a small quantity of blood do no good, the taking a larger quantity must do harm. Sir Richard Manningham, an intelligent practitioner of the last century, proposed a rule, from which, the practitioner, by taking even one ounce of blood, might know, whether bleeding would prove hurtful or beneficial. This position must appear so absurd to every person, who has had the least experience, that a refutation is unnecessary. I have bled to the extent of several pounds, without any

obvious advantage, at other times, with apparently bad effects; and yet, by a continuation of the practice, the patient has been speedily and completely recovered.

Let the practitioner ascertain, by the symptoms which have been enumerated, the existence of the disease; let him ascertain if a cure is likely to be accomplished, by promoting the ordinary excretions; if that is improbable, venesection becomes necessary. His object then is to ascertain the stage of the disease. If early he must warn his patient of the faintishness that may succeed, and, that he is not to expect any great relief from the first bleeding. If reaction be somewhat advanced, which is known by the presence of cold rigours, increased heat of the body; pulse generally fuller and stronger than in health; anxiety and restlessness; headach; and generally an acute pain or stitch in some part of the body; he must inform his patient, that, though some of these may be increased, this is no mark of the impropriety of the practice; but a proof, that it has not been carried a sufficient length. In the more advanced stages of reaction he may assure them of instant relief.

II. The buffy coat has been a source of much error in the practice of venesection. Its absence

in the first or second bleeding, and the patient's experiencing no relief from the operation, has often prevented the repetition of it, in the more advanced stages, when the buffy coat was sure to be found, and where bleeding was the only thing, which could have saved the patient's life.

There are many circumstances, with regard to this phenomenon, which cannot be easily accounted for. Its quantity has been supposed to point out the extent of disease, and the degree of danger. But, it might with more propriety be considered, as pointing out the stage of recovery. It frequently does not exist, when the patient is at the worst, and is often in the greatest perfection, when the patient's health is so far recovered as to stand in need of no treatment.

The globules of blood are so uniform in their appearance and texture, that we cannot easily suppose them to be destitute of organization. This may be admitted, without the necessity of supporting all the notions, which have been advanced concerning the vitality of the blood. Whether their organization be of the animal or vegetable kind, or something peculiar to themselves, they must have periods of growth, maturity and decay. If they resemble organized bodies, with

which we are acquainted, in embryo, they must be nearly transparent, and gradually acquire their natural colour, as they come to maturity. This is in some measure proved, by the circumstance, that the embryo in utero is colourless, though it must contain blood, and that blood must circulate through its body.

From some reasonings of this kind, I have been led to suppose, that the lymph of the blood is the globules in their infant state; and that the buffy coat is a greater than ordinary proportion of lymph. This hypothesis is rendered probable by a number of circumstances, and is in some measure proved by the following fact. If the transparent buffy coat of inflamed blood be exposed to oxigen gas, or even to atmospheric air, it acquires a red colour. It does this more readily in the later, than in the earlier stages of reaction.

The blood may consist of a promiscuous mass of globules, some of them in growth, others in decay. By disease a number may be destroyed or rendered unserviceable: the carrying of these out of the system, and the rearing of new ones to supply their place, may be the object of reaction: the time and means, necessary to accomplish that

end, will necessarily modify the duration of the complaint.

III. The presence or want of pain, though a very useful criterion in guiding the practitioner, is often a source of error. The presence of pain is the evidence of considerable reaction, and ought never to be neglected; but it must also be observed, that many persons die, without any degree of pain, which could excite alarm. This is principally the case, where there is a plethoric habit, accompanied with a laxity in the solids, and where the body, by being heated, is rendered peculiarly susceptible of the impression. I knew an apparently stout man, who after walking, took a cold drink and allowed his body to cool suddenly, he was seized soon after with pain in the abdomen, which was removed by a slight opiate. The pulse continued as in health. He laboured under great prostration of strength, anxiety of mind, and dejection of spirits; purging was most industriously tried, and a considerable discharge produced; but he died in about two weeks. On examining the body after death, there was considerable appearance of inflammation in the stomach.

IV. The strength and regularity of the pulse have in general been considered as the best means

of determining the propriety of blood-letting; but nothing very certain can be gathered from that quarter. The pulse may be weak, and yet the patient may derive essential advantage from the loss of blood. At the commencement of reaction, the pulse is always feeble and often irregular. If venesection be tried in these circumstances, both the feebleness and irregularity are likely to be increased; but a more powerful arterial action, though not the immediate consequence, never fails to succeed. In more advanced reaction bleeding has an immediate effect in strengthening the pulse and preventing intermission. Towards the crisis, when the arterial stimulus has nearly reached its height, bleeding, by taking off the stimulus of bulk, brings down the pulse and renders it soft and regular.

V. The advanced age of the patient has been urged as an argument against venesection; but in such cases, where depletion is necessary, it is the most appropriate practice. In these there is frequently such an irregularity in the excretories, that they cannot be brought into action till it be too late; and after being excited, they cannot be easily stopped. Venesection is free from both these objections.

VI. From a general belief that venesection is improper in nervous diseases, practitioners are often at a loss how to proceed. They see the patient labouring under symptoms, which the loss of blood might probably remove; but the idea of its aggravating the nervous habit is so strongly impressed, that they cannot prevail on themselves to try the experiment. The hysteric paroxysm, as well as fever, is an effort of reaction to restore the system, and may, at times, have been induced by the use of venesection. This is the principal, or perhaps, the only origin of the prejudice. It is often met with where little expected. Every practitioner must have suffered from blunders of this kind, or he has kept very steadily in the beaten tract. The most perplexing circumstance of all is, that these cases generally turn out to be very successful, more so indeed, than when the antihysteric medicine is used without the previous depletion.

An opposite plan should be followed; if hysteria succeed to venesection, persevere in the practice, enjoin abstinence, promote the excretions, and the disease will generally end in a speedy and salutary crisis.

CANTHARIDES. A blister seems to act as an evacuant, as a counter irritation, and as a stimulus

to the whole system. If the first of these be only wanted, the blister may be removed as soon as the vesicle is fully formed. If either or both of the latter objects be in view, the blister must be kept on as long as the patient can bear it; and must be again and again repeated till a solution of the disease is effected. Towards the end of the treatment of chronic cases, this plan does extremely well. If any part of the body has suffered by reaction, and continues troublesome, after the depleting system has been carried a sufficient length, the application of a blister is necessary.

The internal use of cantharides is also serviceable in promoting reaction, and in bringing the disease to a salutary crisis. I have principally used the tincture, and in some instances, carried it to a considerable extent, with very manifest advantage. On this subject, the works of Greenfield, Morgagni and Roberton, contain many important experiments and observations.

When a general stimulus is wanted, that appears to be as easily communicated, by a blister, as by taking the substance or tincture into the stomach. After the removal of the cuticle, the absorbents are so active, that the urinary passages are often affected in a very short time. In

some rare cases, this takes place, even before the cuticle is much injured.

MERCURY. In the treatment of chronic diseases, the most beneficial effects may be derived from different forms of this medicine. I prefer calomel, from the ease with which it can be managed, though in obstinate cases, corrosive sublimate is the most efficacious.

It is difficult to ascertain all the effects, which mercury produces on the system; some of them are sufficiently obvious. It acts as a stimulant on the arterial system, and on the excretories. The first of these is ascertained by the quickening of the pulse, the last by the discharge produced, and by the reduction of the body.

I remarked in the treatment of Mrs Caldwell, that the mouth was soon and easily affected. Where I have met with the same thing since, I have been enabled to prognosticate a favourable termination. On the contrary, where I have used calomel to a considerable extent, without this effect, I have found the cure difficult and often impracticable. The effects of mercury may be greatly promoted by venesection. In the cure of chronic cases I seldom employ the one without the other. Mercury appears to excite and promote

reaction; venesection, by diminishing the quantity of the fluids, obviates resistance.

We are often told of the pernicious effects of mercury on the constitution; but if I were to judge from my own experience I would form an opposite conclusion. In cases, where mercury was carried to such a length, that the patients have been for two weeks, without tasting almost either meat or drink, the cure was most complete. In some instances this was done where the patients were supposed to have suffered greatly from previous salivations; and so far from injuring the constitution, the process appeared to give it new energy, and the most perfect health has been the consequence.

Several years ago, I treated a person above seventy, with a course of corrosive sublimate; the mouth in a short time was so much affected, that for fifteen days, he neither ate nor drank, his body was much reduced; but he had a rapid and complete recovery, and has since enjoyed excellent health.

The bad effects of mercury, like those of venesection, are to be attributed to not carrying the process a sufficient length at once. A cure from mercury is not to be expected, while the patient's body remains unreduced, and while he continues

to take his usual diet. Venesection contributes to the former of these, and the sore mouth effectually secures the latter.

TONICS. On this subject medical men are not agreed. By one party, they have been held forth as our chief resource, in the treatment of chronic diseases; by another they have been as universally condemned, as affording only a transient relief, and inducing bad habits.

Disease, as we formerly remarked, has its origin in the loss of balance between the pulmonary and sanguiferous systems. When reaction is sufficiently strong to accomplish a cure or destroy the patient, the disease is acute; when it comes short of that object, and the patient labours under the train of symptoms we have described, the disease is chronic.

Chronic disease may be divided into two kinds. 1. When it is characterized by a tendency to reaction, 2. When there is a tendency to sink.

I. In the first instance the patient's feelings are at times comfortable. He enjoys intervals of ease and hilarity. If he observe sufficient temperance his life is supportable, and may be protracted even to old age. He is injured by the least irregularity in temperature. His distress arises principally from

headach, want of appetite, bile on the stomach, flatulence, and a tendency to inflammation in some part of the body. Such patients have often a craving for stimulants; but if they indulge, the reaction excited makes them pay smartly for the offence. These either put the patients on their guard, or they convert their complaints into acute disease. Some people, when they find themselves out of order, get drunk, the experiment is a dangerous one, but it sometimes succeeds.

II. In the second instance, there is a perpetual sinking. Nature wants the arterial stimulus of the blood, and calls loudly for a substitute. If we knew the cravings of those who contract habits of intoxication, and, who indulge in eating beyond what nature seems to require, we would perhaps be more disposed to sympathise than censure. To them, a constant supply of food or drink is almost as necessary as a supply of air. Cordials, tonics, rich and highly seasoned food are indispensably necessary, to render life even supportable. This pampering and drinking is continued from day to day, and though miserable in the extreme, they are envied as having all the good the world can bestow. If we look merely to present ease, stuffing and stimulants are absolutely neces-

sary. If the patient wishes to have other enjoyments, besides the indulgence of an insatiable appetite, the whole system must be restored. This, however, can only be done by abstinence and depletion. The epicure boasts of his table, and the bacchanalian of his wine, because their habits have rendered them necessary, but it is temperance alone, which renders life uniformly agreeable.

A desire for these miserable substitutes has laid the foundation for most of the impositions of medicine. In the absence of real health, patients are apt to grasp at the shadow. Hence the cordials, balms and tinctures, with which empirics are eternally dunning the ears of the public, and which too often form a considerable part of the business of the regular practitioner. The cravings of patients make them readily believe, that they want something, which medicine can supply, whereas the fact is, if medicine could only diminish the supply of food and remove the plethora, nature would soon accomplish a cure.

In these observations little attention has been paid to local disease; because that seldom occurs, but as a consequence of disease in the general habit; and the one can only be removed by

correcting the other. Every disease may be divided into two stages. The one before the commencement of reaction; the other after. In the first, the whole body is generally affected; in the last, the disease is most conspicuous in some particular part. The business of the practitioner is to correct the general habit; but in doing this he must take care, that no part suffer during the process. If a local affection remain, it must next be attended to.

There are many ways of accomplishing the same end. One practitioner treats all his patients by purgatives, another by diaphoretics, a third by bleeding and blistering, a fourth by diet, a fifth by air and exercise, a sixth by tonics; and each concludes, because he finds his own plan succeed, that, therefore, the others must be erroneous. The skill of a practitioner consists in properly employing the whole, or in making a judicious selection; and not in adhering exclusively to any one of them.

CASES

Illustrative of the preceding observations, are subjoined.

Asthma.

I was led at an early period to pay considerable attention to the phenomena of asthma. After the perusal of Dr Bree's Treatise, I was anxious to compare the symptoms, as they occurred in the patients I attended, with the description given by that ingenious author. This led to a new investigation of the subject, and as I had found little advantage from any treatment, during the paroxysm, I was anxious to trace, as far as possible, the slighter deviations from health, in the hope, that some good might be done by preventatives.

I was fortunate in having an intelligent patient, who had laboured more than thirty years under the complaint, and who had been in the habit of paying great attention to the state of his body. He informed me, he had two kinds of asthma, the one brought on by impurities in the air he respired, such as smoke, dust, &c. the other by catching cold, and was preceded and attended with catarrhal symptoms. The first kind seldom continued above an hour or two after going into the open air, and required no medical treatment. The se-

cond came on in bed, and the paroxysms continued from one or two in the morning till about midday, a remission took place in the afternoon, and by evening, he found himself considerably relieved. These paroxysms continued three or four successive days and terminated in a pretty profuse expectoration, and the re-establishment of the different secretions.

Of the symptoms, of an approaching paroxysm, he gave a very distinct account.

His business led him to be much abroad, and frequently on horseback. In these situations if he felt one or both of his legs become very cold, he was sure that in a day or two he would have an attack of asthma. If he happens to be near home, when he first feels the cold, he gets his feet warmed, changes his stockings, puts on dry shoes; these precautions seldom fail to prevent bad consequences. If the cold have continued for any length of time, he finds it necessary, to have the extremities well bathed with warm water, he then takes a purgative, a warm gruel, and goes to bed. If perspiration succeed, and be followed with a copious evacuation from the intestines, the asthma is prevented, and by next morning, he finds himself well. If the cold has continued for a number

of hours, before he has recourse to these measures, he knows of no means which can prevent a regular fit of asthma. The bathing and warm drink, which, in an earlier part of the attack, would have prevented the fit, serves now to bring it on sooner and with more violence.

In this instance, the disease has never been strictly periodical, though the paroxysms are as acute as in any case I have seen. Exposure to cold and dampness could bring on a fit at any time, and great caution could sometimes ward them off for a number of months.

When the disease was left to itself, it uniformly went through the following course. A general stiffness and coldness over the whole body; the feet uncommonly cold; the countenance shrunk and faded; the skin dry and hidebound; a general feebleness of the joints; languor and depression of spirits; the pulse slow, weak, and at times intermitting. These symptoms constitute the first stage. They continued during the exposure to cold, and for some time after removal to a warmer atmosphere.

The second stage was characterized by a general soreness over the body; flatulence and distension of the stomach and bowels; costiveness; want of

digestion; creeping in the flesh succeeded by cold rigors; oppression about the precordia; sighing and heaving the breast, as if excessively fatigued; eyes dull and muddy; slight pain in the head; mind weak and fluctuating; temper peevish and irritable; pulse somewhat accelerated and more firm and regular.

On the evening immediately preceding the fit of asthma, if the apartment was warm and comfortable, with a few agreeable companions, he would sometimes get into an unusual flow of good spirits. He has often retired to bed in this condition, fallen sound asleep, and, for an hour or two, enjoyed the best repose.

The distinctness with which this patient narrated the succession of symptoms, induced me to make a similar inquiry into the feelings of another, who had laboured under the disease for more than twenty years. In this instance the paroxysms were at first irregular, but afterwards nearly periodical for the summer months. In winter they generally left him. Much exposure to cold and dampness could bring on a fit at any time, and if it happened to precede a regular attack, it never failed to aggravate the symptoms materially. For several years the paroxysms

have been less acute, but more lingering, and the recovery slow and imperfect.

In this instance, the succession of symptoms was exactly the same as described in the former case, and long experience had taught him to prevent or alleviate them somewhat in the same way.

After having passed through the first stage and advanced to the evening immediately preceding the fit, if any thing particular required it, he could put off the paroxysm for twenty-four hours, by sitting up all night and keeping himself cool. This practice, however, was always succeeded by a fit more tedious and severe than usual.

One thing perplexed him exceedingly, and for several years, he was unable to form even a conjecture how it happened. If he took food on the afternoon or evening preceding the paroxysm, it was sure to disagree with his stomach, and a great part of the subsequent distress seemed to arise from this cause. He overlooked the previous indisposition, and always imputed the attack to the particular food he had taken, and was extremely cautious to avoid it in future. But he found, that one thing disagreed with him after another, till he had not an article left, that had not been previously tried. This obliged him to go over some of

them again, and he at last discovered, that it was the total want of digestion, at that particular period, and not any thing in the food, that occasioned the disorder. After the symptoms of an approaching fit have come on, he finds the best rule is abstinence.

I regretted the loss of an old patient, who had laboured under the disease for twenty-eight years, and whom I had occasionally attended for the last six. His widow an intelligent woman, who had paid great attention to him during the whole of his illness, informed me, that she knew perfectly well when he was about to be seized with a fit of asthma. When he came from his work, put off his shoes, and sat down before the fire to warm his feet, she was sure, that he would be seized in the course of two or three days. She could even foretel the violence of the fit, by the degree of cold. If the feet only were effected, the paroxysm would be an ordinary one; if the cold extended to the knees a more severe fit was to be expected; if it extended to the haunches, and was succeeded by cold rigors over the whole body, she was sure it would almost take his life. If the cold stage escaped her notice, she never failed to discover the latent disease, in the change of his temper and

deportment. On the evening, immediately preceding the paroxysm, she has remarked, that his native cheerfulness and placidity of temper were completely restored, or even heightened above their ordinary level.

For many years, the paroxysms came at irregular intervals, and seldom lasted more than one day, the recovery was rapid, and between the fits, he enjoyed the very best health. They afterwards became nearly periodical, and returned for two, three, and often four days at a time. The recovery was slower, and the health was scarcely re-established, till another attack. For the last eight or ten years, the paroxysms were less severe; but he became subject to a constant dyspnœa, cough, and expectoration. His last illness, as was formerly remarked,* was a violent diarrhœa; but during this period he had not the smallest complaint in the chest.

Few diseases are so well calculated for observation as asthma. Its frequent recurrence gives frequent opportunities of remarking its progress, and its severity must excite, in no small degree, the attention both of the patient and practitioner.

* See page 179.

I have observed the same, or a very similar train of phenomena, in every case of asthma that has come under my observation. One woman remarked, that she was never sensible of any very remarkable cold in the extremities; but cold caught in the head, or nape of the neck, unless early attended to, never failed to bring on an attack of asthma. All asthmatic patients are extremely susceptible of cold, in one way or other, none of them can use any freedom, in changing their dress, or in exposing themselves to the vicissitudes of the weather; and wherever the impression of cold goes beyond a certain extent, a regular succession of symptoms inevitably follow, and terminate in a paroxysm.

The paroxysm has been sufficiently described by nosologists, but the previous stages have been overlooked. In some patients there is little time between the impression of cold and the commencement of reaction: in such cases the paroxysm is acute; but the reaction is strong and able to bring its work to a salutary crisis at once. In some, there is a number of days between the cold and the fit, and the one is forgotten before the other happen; in such cases reaction is feeble and generally takes two, three or four efforts to accomplish

its end. In some, the body is so extremely susceptible of the impression of cold, that almost any exposure is sufficient to destroy the balance; while the solids are so weakened, that a sufficient degree of reaction can hardly take place to restore the system: in such cases the paroxysms are less severe; but the patients become subject to a constant dyspnœa. The same person, if he has laboured long under asthma, generally has it in all the different forms.

On the removal of asthma it is necessary to ascertain whether it has been the effect of a vigorous reaction; or whether it is owing to a want of power in the system to bring on a paroxysm. In the first instance, the patient is out of danger, in the second we may expect to find the disease in a different form, and most likely, in one more incurable than asthma.

The patient, whose case is first related, had a smart fever, with an erruption not unlike small pox, after this he had nothing of the asthma for more than three years. Some time ago he had an unusually severe attack, and was bled, blistered, and purged repeatedly; he afterwards recovered extremely well, and had no asthmatic complaint for more than a year. I visited a patient lately,

who had been subject to asthma for thirteen years. It was induced by going into cold water soon after delivery. During that period she could not bear the least exposure, even standing for a few minutes with her feet on the cold floor did her harm. About six months ago, the asthma left her, since that she can bear any exposure, but she became dropsical. When I saw her first, she had ascites, and was oedematous from head to foot. She died in three or four days.

The phenomena of asthma is easily explained: by cold the balance between the pulmonary and sanguiferous systems is destroyed. The blood is deteriorated and proves an excessive stimulus to the right side of the heart, and to the pulmonary arteries. In consequence of this, the blood is too abundantly poured into the lungs, and produces that oppression and distress, which constitutes the asthmatic paroxysm. The cold diminishes the excitability of the solids; hence the time between the cause of the disease and the commencement of reaction, and why it comes on when the patient is warm in bed. One of the patients, whose cases have been mentioned, by keeping the body cool, could prevent the paroxysm at pleasure; but by this step he laid the foundation for a more severe

attack, and ran the risk of rendering the injury irreparable.

If a cure cannot be accomplished by one effort, the paroxysm recurs; after a second, third or fourth attempt the system is restored, and the patient enjoys tolerable health. If reaction be inadequate, to bring the work to a salutary crisis, the patient has an imperfect recovery; he labours under the symptoms described, as constituting the second stage of the disease, accompanied with a perpetual dyspnœa on the least exertion. This is generally the lot of old people, who have laboured long under the complaint.

The treatment of asthma consists in diminishing the resistance of the fluids; in bracing the solids and enabling them to produce a salutary crisis. The first is accomplished by abstinence, purging, bleeding, and diaphoretics: the second by calomel, cantharides, and tonic medicines. After the patient is convalescent, a light nourishing diet and exercise in the open air are necessary to complete the cure.

Cholera.

Having made some progress in the investigation of approaching asthma, I determined to embrace every opportunity of making a similar inquiry into the commencement of other diseases. Soon after this, several cases of cholera came under my observation, and I was not a little surprised to find, that, notwithstanding, the apparent suddenness of the attack, it was generally, if not always, preceded by a similar train of symptoms, as has been described in asthma.

The first instance was a man about sixty years of age, he was seized on a Sunday night. After coming from church, he had taken warm soup to dinner, and was tolerably well all the evening. On rising to go to bed, he was struck with a pain in the epigastric region. This was supposed to be a cramp in the stomach. It continued very severe for about ten minutes, and was succeeded by vomiting, and soon after by purging. These came on afterwards at the same instant, and recurred, every five or ten minutes, through the whole night. They were also attend-

ed with such severe cramps in the lower extremities, that he could not, at times, support his own weight.

He imputed the attack to some vegetables in the soup, and remarked, that he had found them do the same thing before. I found that on the Thursday immediately preceding the attack, he had been a little exposed, and had found himself uncommonly cold. His feet in particular, though he sat down different times before the fire to warm them, could not be preserved in a comfortable heat. He took his victuals as usual that day, and rested pretty well through the night. On Friday he felt dull and languid; but still took his victuals, and had no particular complaint. On Saturday "his bones," to use his own expressions, "were all sore; the fleshy parts of his body were stiff and painful, as if they had been beaten with a stick;" his joints were feeble, and he felt an aversion to exercise. He had sometimes a sensation as if cold water was poured on his back, with a chilly uncomfortable feeling over the whole body, and a wish to sit near the fire. On Sunday his spirits were somewhat relieved, and he thought himself getting better, till the evening.

This patient has had repeated attacks of the

same kind since, and has always found them ushered in by a similar train of symptoms. By an early attention to his feelings, by the application of heat to the body, by purgatives and other means, he has frequently, after the cold had made some progress, prevented any bad consequences.

A woman, after a journey of eight miles, had scarcely sat down, when she was seized with cholera. She could assign no reason for it, except being warm walking, and eating two pears, which she received from an acquaintance by the way. The attack was most violent, and continued from about nine at night till four next morning. After vomiting several medicines, she was relieved by an opium pill. She afterwards took some purgatives and in a day or two was completely well.

On a further investigation, I found, that about eight days before, to accommodate some strangers with her bed, she had slept on the floor. She caught cold in this way, which was succeeded by a train of symptoms, nearly similar to what occurred in the former case. These had in a great measure left her, but she was weak, and felt more fatigue from the journey, than could have been expected from the manner she walked.

Many instances of the same kind might be adduced; but the sameness of the description would render them tedious, I shall only add one, which occurred in March last. A stout healthy man about forty years of age, was returning from Ireland. On his way he was disappointed of a seat in the mail, and was obliged to go on the outside. He came in this way about twenty-six miles, and had afterwards to walk eight. It was on a Sunday. He felt himself very stiff, cold, and uncomfortable, all the time he was on the coach, and for several miles, after he left it, he was not sensible of the least heat in the extremities. It was with great difficulty he got home. He took his victuals pretty well for two or three days, but felt himself extremely dull and languid. On Wednesday and Thursday he had some cold rigors, and complained of soreness over his whole body. On Thursday afternoon he had little appetite, but took some potatoes to dinner, went to bed at the usual time, and fell sound asleep. He was awaked about two with a violent pain in the stomach and bowels. In a short time after, he began to vomit and purge almost at the same instant. These recurred at short intervals, till after the middle of the day. I saw him about three in the afternoon, the vomit-

ing had stopped, and the purging was much abated. He took a dose of castor oil in the evening, which operated well. On Monday he was out, and apparently in good health.

In every regular attack of cholera I have seen, the same train of symptoms, which have been described in the three preceding cases, and in asthma were distinctly marked. In some instances the patients attributed the disease to its proper cause, in others they attributed it to what they had eaten last: the old man to the vegetables in his soup; the woman to the pears; and the last patient to the potatoes.

The time between the impression of cold, and the commencement of the attack, varies exceedingly; in some instances it occurs in a day or two; in others it is not till the end of several weeks. That fruit, and other vegetable substances, have a tendency to excite the attack, when the body is predisposed to it, is not to be doubted; but it is uncertain, if they do more than excite a common colic or diarrhœa, if the patient be previously in good health. What may deceive practitioners is, that patients are for years in the state we have described, as constituting the second stage of disease. In such cases, it is not necessary to find out

a previous application of cold; their bodies are already predisposed, and need only the exciting cause to bring on reaction.

In cholera as in asthma, some degree of heat is necessary to bring on the attack. In the first instance it was after the warm soup and sitting before the fire; in the second the body was heated by walking; in the third the patient was warm in bed. Like the asthmatic paroxysm, it seems to be a mean employed by nature to restore the system. If the constitution be good and reaction properly managed, it generally terminates in health; if not duly moderated, it may destroy the patient, at once; if improperly checked, there is a risk of chronic disease: in which event, the attempt is renewed, or the system must be relieved by other means.

It has been mentioned, that after the impression of cold, the blood ceases to be a stimulus to the excretories, hence the arid skin, the constipated bowels, and the scanty micturition. The liver, receiving its stimulus from venous blood, has more to do than in health, hence the profusion of bile, which precedes and accompanies so many diseases. This is the origin of cholera. The bile, besides being more abundant, may also be more acrid.

How it comes to act instantaneously, is not so easily explained. In this respect, it resembles other paroxysms. Asthma, hysteria, epilepsy do the same.

In the cure of cholera, two things are necessary; to evacuate the bile already in the first passages, and to moderate its secretion. The first is done by emetics and purgatives, and these at the same time often accomplish the second. By the evacuation, they produce from the sanguiferous system, they enable the lungs to accomplish the restoration of the blood. Where the plethora is great, or where there is a tendency to inflammation, venesection becomes necessary. A morbid irritability of the intestines remaining, after the original cause is removed, may be cured by opium. After removing the pain and commotion of the bowels, it must be carefully ascertained, that the diseased habit is also removed, or a relapse is to be expected.

Colic.

In July and August 1807, I met with a greater number of cases of colic than usual. In most of them, a previous indisposition could be distinctly traced, in a few, it was not so obvious.

Among the first of these cases was a young woman; she had been warm washing through the day; in the evening, she stood for some time up to the knees in cold water, and the work she was employed in, had wet her clothes from the breast down. On her return, she met with an acquaintance, and stood till she became so cold, that she could scarcely get home. She went to bed, slept tolerably well, and next day had little complaint, except feebleness and dulness of spirits. About a week after this, she had frequent cold rigors, and was seized now and then, with shifting pains in the abdomen, which seldom lasted above ten or fifteen minutes, and went off without any application. On a Sunday, the tenth day after the cold, she had been at church, and in the afternoon, took a walk of three miles, but found herself so excessively fatigued, that she could scarce-

ly make it out. On coming home, she took a draught of butter milk and went to bed. She slept tolerably well till about two in the morning, when she awoke with a most violent pain in the belly. Supposing it to be a colic, she was advised to take a cupful of salt and water; but without relief. In the morning she took a glass of spirits, which aggravated the disease.

13th July.

I saw her in the afternoon. She complained of pain all over the abdomen, particularly in the direction of the arch of the colon, inclining to the right side, with severe contortions at times. There was no tumefaction nor hardness to be discovered, nor did moderate pressure increase the uneasiness; pulse 74, weak, but regular; tongue white; bowels costive; urine apparently natural; skin dry; great oppression about the precordia; with strong apprehensions of death. Dreading inflammation, I took sixteen ounces of blood from her arm, and to remove the costiveness, ordered some powders of calomel and jalap.

14th.

She has taken powders to the extent of fifteen grains of calomel and sixty of jalap, without any effect. Some time after taking the last powder

she vomited, but did not seem to throw up any of the medicine. Becoming greatly worse through the night, I was sent for at four o'clock in the morning. The blood taken yesterday had no appearance of inflammation; the pulse was slow and rather feeble. A clyster was ordered; some camphorated spirits for rubbing the abdomen, and an anodyne draught. The clyster having operated pretty profusely, the anodyne was given, the abdomen was rubbed with the spirits, and wrapped in flannel. After this, she experienced considerable relief; but the pain returning towards night, and being more fixed in the right side, a blister was ordered.

15th.

Pulse 68; pain gone. She has been extremely oppressed about the precordia; no sleep since the morning of the 13th; strong apprehensions of death; great anxiety of mind. No stool since yesterday; urine scanty, but of the natural appearance. I took sixteen ounces of blood, which gave her immediate relief; ordered a dose of castor oil, to be followed with some calomel and jalap.

16th.

The purgatives operated remarkably well; stools dark and fetid; they had a kind of membranous

appearance, or rather, like rotten flesh mixed with moss water. The blood taken yesterday has a little of the buffy coat. She has had a very restless night; no pain; but feels such oppression, that she imagines she cannot live any time. Strength so much impaired, that she cannot bear her own weight, or even turn in bed without assistance. Pulse 66. I took eighteen ounces of blood from her arm. Before the half of it was drawn, she felt herself relieved. Purgatives to be repeated the same as yesterday. In the evening she complained of stitches in the breast, with pain on taking in a full inspiration. Blood taken yesterday and to-day more inflamed. Ordered a blister to the sternum. Pulse 74, rather stronger.

17th.

Blister has done well; pain is removed; no sleep. The oppression about the heart, as she expresses it, returned as bad as ever through the night, and continues. Thirst, which has been always considerable, was more urgent than usual. Several stools of a more natural appearance, but fetid. She wishes by all means to be bled. Pulse 76, stronger than it has been at any former period. Sixteen ounces of blood were taken, which gave

her instant relief. She continued more cheerful and easy all the day than usual.

18th.

She has had some sleep, for the first time, since the attack; spirits continue better. Pulse 86. Having had no stool these two days, the castor oil and powders are to be repeated.

19th.

The purgatives operated very well in the afternoon; had an easy night, but no sleep. Oppression returned towards the morning and continues. Seven P. M. She has been worse, and is now almost as bad as ever. I took twenty ounces of blood from her arm, which afforded her the same relief as formerly. In about half an hour after, a gentle perspiration broke over her whole body.

20th.

She has had a good night; slept five hours at one time, and two at another; feels cheerful and refreshed. The blood taken yesterday very much inflamed; buffy coat is turned up in the edges, and contracted to the size of a shilling. Pulse 80, firm and regular.

22d.

She has been greatly better since last report. She felt a little of the oppression this forenoon,

but no pain. I took fifteen ounces of blood from her arm; she felt relieved, and was greatly better by the evening; ordered a dose of castor oil. Pulse 78.

23d.

The catamenia has appeared through the night, which is two or three days earlier than expected. She feels weak, but comfortable; some difficulty and pain in making water; appetite returned; did not sleep quite so well as on the former night.

26th.

The catamenia left her early in the morning; about five she was seized with a diarrhœa, which has troubled her a good deal. Stools copious, but pretty natural in their appearance. Pulse 84; ordered another dose of castor oil. The oppression and anxiety about the precordia have not troubled her these three days. She sat up last night, while the bed was made.

30th.

Having complained of pain in the right side, a little above the spine of the ilium, a small blister was applied, which removed it. She continues well, and is able to sit up the greater part of the day; spirits light and cheerful; appetite good; bowels regular; tongue clean; mouth well tasted; rests

well at night; last night she had a sleep of six hours at once. Pulse 74, soft and regular.

Sept. 3d.

She has been in the country two weeks, the catamenia recurred at the regular period. She is in perfect health; but not so strong as formerly.

Sept. 15th 1808.

She has enjoyed an uninterrupted state of good health, since last report, and for ten months has been as strong as in any period of her life.

Soon after treating the above case, I visited a woman, twenty-nine years of age, the mother of two children, the youngest between eight and nine. When suckling the last, she was seized with a violent pain in the bowels, particularly in the right side. Different attempts were made to bleed her, but the quantity obtained was trifling. Her side was repeatedly blistered, from which, she derived relief. She had a slow tedious recovery, and continued weakly till about two years ago, when she had a fever, and has since been pretty stout and healthy. Catamenia profuse, and rather too frequent. For about six weeks she has complained of a fullnes and suffing about the chest, and has not been so able for her work as formerly. Her

bowels have been costive, and her skin, which has been always dry, was more so than usual. Her spirits were dull, and she did not sleep well at night; complained of cold on the least exposure.

3d August 1807.

Eight days ago she walked a distance of about twenty miles. After the first six, she felt herself very warm and oppressed, and took a copious draught of cold water. She was soon after seized with a violent pain all over the abdomen, and it was with great difficulty, that she accomplished the rest of the journey. For two days, she had very acute pain, recurring at intervals, and aggravated by pressure, for which she had taken different doses of castor oil, with advantage. Since that, the pain has been more moderate, and is now almost gone; but she finds herself so extremely weak that she can scarcely stir without fainting, and feels so oppressed that she imagines she cannot survive any time. Pulse 74, and so weak that it can scarcely be counted. Tongue white and foul; breath disagreeable. While sitting in bed, about twenty ounces of blood were taken from her arm; she at first appeared to bear the operation very well, but afterwards became faintish. She remarked, however, that though weak, she felt relief as

the blood flowed. Through the afternoon, she recruited a good deal, and became stronger by night, than she was before the bleeding.

4th.

She has had some return of the pain in the bowels, but on the whole the night has been good. Since her return she has not slept altogether two hours; last night she slept more than three at one time and two at another. Blood very much inflamed. Pulse 80, regular, but still weak. While lying, I took about as much blood from her arm as yesterday, she bore the operation well, and found herself greatly relieved. A dose of castor oil was ordered.

5th.

The purgative has operated well. Stools dark and fetid. She had a sound refreshing sleep, of five hours and a half. Finds herself greatly better to-day; was able to sit up and take a little breakfast. Tongue clean; mouth not so ill tasted. Pulse 84. The blood taken yesterday very much inflamed. Crassamentum so tenacious that it can be lifted out of the serum and suspended on a probe.

In eight days she was able to return to her work;

in a month her strength was completely restored, and she has enjoyed uninterrupted health since.

At the time I attended these patients, I met with many others of a similar description. The first and second stage was nearly the same in all; the variety consisted in the form of the paroxysm. Exposure to cold was the original cause. If the body happened to be heated, it became the more susceptible of the impression. One person caught cold, and after a longer or shorter interval, was seized with asthma; another with cholera; a third with colic; a fourth with diarrhœa or dysentery; a fifth with sore throat; a sixth with pneumonia; a seventh with inflammation of some of the abdominal viscera; an eighth with erysipelas; a ninth with rheumatism; a tenth with gout. Prior to the paroxysm, a case of pneumonia was not more distinguishable from a case of rheumatism, diarrhœa, or asthma, than one case of pneumonia was distinguishable from another. The same might be said of all the rest.

The impression of cold and the first stage of reaction is very similar in all diseases. After reaction is further advanced, it is modified by a variety of circumstances. It is seldom the part of the bo-

dy exposed, which is the seat of the disease. In every patient there is generally one part of the system, which is apt to give way, hence the disease to which he is most liable. One person cannot bear the least exposure without inducing a sore throat; in another the same exposure brings on a colic or diarrhœa; in a third some affection of the chest.

Where the disease takes a decided form the practice is plain and easy. It is where there is not sufficient reaction, that the practitioner is most bewildered. Apparent debility is too apt to prevent those active measures, which are necessary to save the patient's life. It has been held as the "most absurd of all paradoxes, that the system can be strengthened by depletion," and yet experience proves the truth of the position. Can any thing be more decisive than the practice of Rush, Jackson and Bryce in the diseases of hot climates? Their opinion indeed has been controverted, but that has been more from theory than from practice. Till of late the same prejudices prevailed with regard to depletion in scarlatina, typhus, &c. Purgatives were once applied in such complaints; but it was not till Dr Hamilton revived the practice, that it was carried to a sufficient length to relieve the patient.

Consumption.

In some instances, reaction scarcely takes place at all, and the patient dies soon after the application of cold. This has happened to people going into the cold bath, after they had been much heated. In other instances reaction comes on at an indefinite period, generally within one or two weeks, and terminates in fever, or in one or other of the complaints mentioned in last section. If the paroxysm be vigorous, and properly managed, a crisis obtains and the patient has a speedy and complete recovery. If reaction be feeble, a slow fever continues, which is aggravated by the slightest variation of regimen, exercise or temperature. In other instances, after the balance is lost, there is almost no attempt in the system to recover itself: the patients take their food as well, or better, than in health; but they lose strength and spirits daily: The excretions are irregular, generally one of them in excess, and the rest deficient. But what chiefly characterises this state of body, is cold in the extremities, a general chilliness through the body, and a constant wish to sit near the fire: the

patients too, from being social, cheerful and enterprising, become dull, peevish, and partial to solitude.

The perpetual low fever, and this want of tone in the system lead to fatal diseases; the first almost invariably to phthisis: the last to phthisis, scrophula, diabetes, dropsy, chorea, palsy, hydrocephulus, chlorisis, mania, &c. In almost every one of these a previous indisposition of weeks, months, and sometimes even years, may be distinctly traced; and very often, the first cause of the disease can be discovered.

Mr. J. H. Student, aged 19, slender, but originally of a pretty good constitution, and subject to few complaints till about a year ago. At that time, he lodged in a warm room, and was in the habit of going to an evening class, without a great coat. On these occasions he felt cold and uncomfortable; but, as he had been always healthy, he paid no attention to it. He became subject to cold feet, and, for several months, could scarcely say he ever felt them agreeably warm. He lost his complexion, his body began to decline, and he felt oppressed with the least exertion. He had been in the habit of coming from Glasgow

to his father's once a-month; the distance is seven miles, and he used to walk it in two hours. In February he could not make it out in less than three, and in March it took him four. After this he never made the attempt. In these exertions, he found himself so excessively fatigued, and out of breath, that he was obliged to stand still every now and then, or recline, for a few minutes, on any object that was at hand. If he attempted to walk quickly up a stair, he felt such a giddiness and palpitation, that he was frequently obliged to lay hold of the wall, to prevent his falling down.

He continued nearly in this situation, but always making it worse, till June, when the dyspnœa had become so troublesome, that it would have taken him an hour to walk a mile; and he would have felt as much fatigue after, as if he had performed a journey. He had also acquired a cough, with a pretty profuse expectoration of thick mucus; but had never any very acute pain in the breast, except from over-exertion. At this time he was bled once, went to the country and got rather better. In August he was blistered, and found some relief from it. He went again to the country and was so far recovered, as to be able to return to College in November.

Through the summer, he perspired freely on the least exertion, and during sleep; his bowels were costive; the urinary discharge high coloured, and scanty. His appetite, in the beginning of his complaint, was impaired; through the summer, it became so voracious, that nothing but the richest animal food, in very considerable quantities could satisfy his cravings. This astonished him very much, for formerly, he used to have an aversion to it. The powers of digestion, however, were not equal to his desire for food; after taking a full meal, his stomach swelled and gave him a good deal of uneasiness.

He had always been accustomed to sleep in blankets; in his new lodgings sheets were used. He felt extremely chilly on lying down, and was often uncomfortably cold through the whole night. His complaints increased. The cough and dyspnœa were now attended with some pain, and a rustling wheezing noise in the chest. His strength and spirits declined so rapidly, that he found himself under the necessity of returning home.

The following account of the state of mind is in the patient's own words. "I became much subject to yawning and sighing, and frequently felt a general uneasy inquietude of mind. When alone

the predominant state of my mind was lowness of spirits, a gloomy imagination, and a dread of imaginary evils. I preferred solitude to the most agreeable society. I even avoided associating with my best friends, and imagined that those, with whom I had a more distant acquaintance, were capable of detraction, and that their friendship to me was only feigned. I felt a want of energy of mind, which rendered me either unwilling, or incapable, of attending to any subject with sufficient assiduity. My understanding was apparently clear; but was apt to get into confusion on the least exertion. Memory was much impaired. Reading, or study of any kind, soon tired me, and though I paid all the attention in my power; yet a paragraph was no sooner read than it was forgotten.

"This turn of mind, no less unpleasant to myself than strange and disagreeable to others, rendered me totally unfit for society. There it discovered itself in a timid peevishness and silly apprehension, that I was the object of ridicule. I was either altogether absent to what was going on, or foolishly imagined that the conversation, however general, was directed against me. If, by my absence and dejection of mind, I had drawn on myself the banter of the company, without any atten-

tion to their friendly design of raising my spirits, I became irritated and confused. Their letting me pass unnoticed did not at all amend the matter; on the contrary, I have, for this cause, more than once, retired from the company of friends, scarcely able to help bursting into tears."*

Since the attack in November his appetite has been greatly impaired; bowels costive; skin dry and harsh; tongue white and often covered with a tough mucus; gums tender and ulcerated; he frequently coughs up a thick phlegm, mixed with streaks of blood; considerable pain in the chest, but not confined to any part; dyspnœa on the least exertion, with a wheezing and at times a chirping noise from the bottom of the sternum; is obliged to sleep with his head very high; body much wasted; countenance languid; now and then a circumscribed flush in the cheeks, sometimes on the one and not on the other; the rest of the face very pale and ghastly. Pulse 84, regular, but very weak.

I proposed taking blood, but having derived advantage from the blister in August, he wished to

* This account was written in the beginning of March.

try that first, which was agreed to and a pretty rigid abstinence enjoined.

21st.

The blister has done well, he has also taken some pectoral lozenges, but finds himself no better. I took eighteen ounces of blood from his arm, he bore the operation well, till towards the end, when he became faintish and went to bed. The blood was very venous; on standing a little, it became spangled with purple streaks; these gradually increased till the whole surface became of a blue colour. Pulse 86, weak.

22d.

Felt himself much the same, through the afternoon, but had a better night. Cough has been very troublesome; cannot lie on either side without bringing it on, particularly the right. Had two or three easy stools, in consequence of a dose of senna. Took twenty ounces of blood from the arm, after the operation, he felt sick and went to bed. Pulse 86. The crassamentum of the blood, taken yesterday, has a very thin buffy coat, the rest extremely dark and devoid of tenacity. That taken to-day has the same purple streaks as formerly described.

23d.

He slept better last night, and felt easier, and more comfortable in his body, than he has done for some time. The cough is still troublesome, but the wheezing and chirping in the breast are better; had considerable headach in the afternoon. Pulse 88, regular. I took eighteen ounces of blood from the arm, he sat and did not feel faintish. The blood much the same as on former days.

24th.

He slept well, and with his mouth shut, which he has not done for several months. He could also lie on either side for a little without bringing on the cough. The crassamentum of the blood, taken yesterday, is covered with a thin buffy coat; but not at all contracted, and very devoid of tenacity. The pulse 90, firm and regular.

25th.

He had a smart fever, yesterday afternoon, accompanied with acute pain in the head, particularly in the back part of it, where it had a throbbing expansive sensation, as if it would have burst. This went off towards night, and his spirits became more light and cheerful than usual. He slept pretty well and was not much troubled with

the cough. Pulse 94, firm and regular. Sixteen ounces of blood were taken from his arm; it flowed with greater force than in any of the former bleedings; he did not feel at all faintish. On standing a few minutes the blood became very sizy on the surface. Tongue white; skin very dry and rough.

26th.

The fever returned in the afternoon, for about two hours, accompanied with headach. After ten, it went off, and has not troubled him since. Slept pretty well. Pulse 96, firm. The crassamentum of the blood taken yesterday is much firmer than any of the former; the buffy coat contracted and turned up in the edges. By drinking a little of the infusion of senna, the bowels have been kept regular.

27th.

He had a good deal of fever in the afternoon, which went off, as usual, in the evening. The cough and dyspnœa, being still troublesome at times, another blister was ordered to the sternum. Pulse 86, and regular.

28th.

The blister has done well; the vesicle was very large, and filled with a thick yellow gelatinous

substance; slept pretty well; had some return of the fever; but on the whole thinks himself better than he has been at all. Appetite good; finds some difficulty in observing a due abstinence. The skin about the wrists has become more natural. Pulse 86.

29th.

He has had rather a bad night, finding his appetite very good, he was tempted to eat some beef steaks to dinner, which disagreed with his stomach, and distressed him a good deal. Pulse the same as yesterday. I took fourteen ounces of blood from his arm. Blood after standing a few minutes became very sizy.

31st.

He had a good day yesterday, till the evening, when he became hot and feverish; dreamed a great deal, but on the whole rested tolerably well; felt squeemish in the morning; had a bad taste in the mouth; no appetite; tongue foul; considerable thirst; pulse 112, regular, and pretty strong. On attempting to rise he felt giddy, and was obliged to lie down again; has kept his bed since.

Jan. 1st.

He has continued much in the same situation as yesterday; did not sleep well; skin hot; headach

troublesome; pretty severe throbbing in the temples; urine high coloured, scanty, and on cooling desposits a copious whitish sediment. Pulse 120; skin dry and hot. I took twelve ounces of blood from the arm; he felt a little relieved, in about ten minutes the pulse fell to 100; cough still troublesome, particularly through the night.

2d.

He continued cool and easy for some time after the blood-letting. Towards the evening he felt cold rigors; the feet and hands were as cold as if they had been immersed in snow. And he had a sensation as if cold water was poured down the back. By night he became hot and feverish; towards the morning, he rested pretty well, perspired a good deal, and has since been troubled with a diarrhœa. This is new to him, for several years back, he has been habitually costive, except when taking medicine. Pulse 112.

3d.

The coldness of the back and extremities, with rigors through the whole body, returned, about the same time in the afternoon, as on the day before. The fever, accompanied with heat in the skin and headach, was pretty severe through the night. Appetite quite gone; he has scarcely tasted

food these four days; constant thirst; mouth dry and ill tasted; tongue foul; diarrhœa continues. Pulse 116. Breathes quick, but with more freedom than formerly.

4th.

The diarrhœa continues accompanied with tenesmus; urine scanty, high coloured, and voided with pain; on cooling, it becomes white and turbid and deposits a sediment, equal to half its bulk. He has had a confused restless night; slept a good deal, but was not at all refreshed. An occasional tickling cough produced reaching at times, and gave him some uneasiness. Pulse 115, pretty firm. Ordered a dose of castor oil.

15th.

The fever has continued, with some degree of remission, in the morning, and exacerbation in the afternoon, since last report. The pulse has ranged from 110 to 120; the bowels have become more natural, but rather inclining to costiveness. The headach and heat of the skin go and come; he has sometimes a partial perspiration; sleep disturbed with terrifying dreams; in a half sleeping state, he is apt to speak incoherently; but on being roused his intellect is clear and distinct. His appetite has returned; of late, he has taken a lit-

tle food twice a-day, and drank some toddy in the evening, which he relishes very much, and says it does him good. To-day, he has had a longer and more complete remission than on any of the former. Pulse 100.

17th.

The fever returned a little last night; but on the whole, he slept tolerably well and felt comfortable. He had an easy natural stool in the morning. The cough still continues to trouble him at times, but the wheezing in the breast is gone. He thinks the cough arises, principally, from a tickling in the throat, and is quieted after taking the tody; there is some degree of moisture over the whole body. Pulse 86, soft and regular.

23d.

He has made it daily better since last report. The pulse has ranged from 70 to 85. The fever occasionally returns in the afternoon, but never continues above an hour or two; he sleeps well at night, and the cough is gradually abating. Alvine and urinary excretions pretty natural; the skin has become soft and perspirable; mouth clean and well tasted; appetite very good; could eat a great deal more than is judged safe; takes the tody every night, and it agrees well with him. He

has been up two hours to-day; has on his clothes and is able to walk through the room.

Feb. 6th.

He has made great progress since last report; he sits up all day, and can apply with considerable energy to his literary pursuits; his appearance greatly improved. On the evenings of the 2d and 3d, he was restless, and did not sleep so well. Suspecting that it might arise from taking too much supper, he was ordered to take nothing after tea, which he has observed since, and has slept extremely well; the cough almost gone; he can lie on either side without producing any uneasiness. About eight days ago, he caught some degree of hoarseness which troubled him for a few days, but is now almost gone. He has scarcely any complaint except weakness. The serenity of his mind is completely restored.

28th.

He has taken occasionally a few bitters, since last report; his appetite continues good; his strength is so far recovered that he can walk four miles without feeling much fatigue. The dyspnœa and cough quite gone. Pulse 74.

He continued to improve till the middle of

March, when his father being from home, he was obliged to attend to the business of a shop for about a week, he caught cold, which brought back the cough, lost his appetite and appeared to be almost as bad as ever. By confining himself for a few days he got greatly better.

His mother, who had been threatened with consumptive complaints through the winter, turned worse about this time, and died of phthisis in the end of June. His unremitting attention to her, during that period, retarded his own recovery very much. After her death, he went to the country, and returned in the beginning of September. Not so strong as he has been, but in good health. His principal complaint is a palpitation of the heart, on any considerable exertion. His spirits are cheerful, and his mind as vigorous as in any period of his life.

December 21st 1807.

At the time Mr H. was treated, I had also a young lady under my care for the same complaints.

This patient was twenty-four years of age, of the middle size, black hair, and used to have a very fine white delicate skin. Her life has been rather sedentary; but she enjoyed most perfect

health till July 1806. At that time she had bathed, and staid too long in the water: she afterwards felt cold and could not be brought to an aggreeable heat all the evening. She bathed again next morning, did not stay long in, but felt, on coming out, the same feebleness and cold as on the former day. She continued weak and languid, but had no particular complaint, till four or five days after, when she was seized with an extremely acute pain in the right haunch.

This was the time the catamenia should appear, it did so; but was more scanty than usual, and accompanied with sickness and pain. The pain in the haunch continued to trouble her at times for more than a year. It was always worst on becoming warm after being cold. On going into a cold room and remaining a little, she felt her haunch become cold and benumed, on returning to a warm place, it became painful. She was always worst in very hot or very cold weather.

From the time she caught cold, she had generally a cough, but it was not attended with much pain in the chest. She went to the salt water in August last, bathed sometimes, but always found herself much the worse of it. It suppressed the cough and made the breast so bound, that she

could not breathe with freedom. It also raised a pain in her right side, a little higher than the region of the liver, which has troubled her ever since. On giving up the bathing a few days, the cough returned and she found herself easier.

Before going to the salt water, she had rather a poor appetite, after that, it became keen and she could eat more than she used to do in health. She gained a little strength in this period, but it was not at all proportioned to the food she took. On returning home, the appetite continued, but she lost flesh and strength daily. The cough has gradually increased. It is not accompanied with much expectoration, but to use her own words, she "can never get under it." She has had occasional headachs. The catamenia has continued regular to a day; but always scanty and accompanied with much sickness and distress. She is extremely sensible of cold, and wishes to sit near the fire. Even in the warmest days in summer she feels disagreeable if the room door is left open for a few minutes. Though thus sensible of cold, she cannot bear being in a close confined room. She feels most comfortable in a large apartment, where there is no current of air. She has perspired little for nine months, and feels

her body affected with the smallest variation in the state of the atmosphere. Her skin is hard, dry, and hidebound. Her countenance has a pale consumptive appearance, with now and then, a hectic flush in the cheek; strength greatly gone; the cough has increased very much of late, and is accompanied with pain in the chest, and difficulty of breathing, on the least exertion. Tongue clean; no particular taste in the mouth. Pulse 86, weak, but regular.

About a month ago, the weather was very cold, during that period, on going into the open air, she felt an acute pain in the chest, as if her lungs were drawn together with a cord.

She has lived pretty much on a nourishing diet, and has been urged by her friends to drink now and then a glass of wine, but was always the worse for it. She is much surprised at the decline of her body considering the food she takes. She is never satisfied with her victuals unless scalding hot, particularly her soup at dinner and tea at night.

Her mind for these twelve months has been extremely weak and easily affected. She has all along been in very low spirits; wishing rather to be alone than in company, and has lost relish for the amusements, which used to give her pleasure.

Some laxatives, to evacuate the intestines, were ordered; to adhere most rigidly to a spare diet, particularly in point of quantity, and to be bled every two days. She agreed readily to every part of the treatment except the bleeding, but to this, she had an insuperable reluctance. At all events she wished it to be delayed for a few days, as she expected the catamenia. I did not see her again till the

29th.

The catamenia appeared at the time expected, and she has kept rigidly by the diet prescribed. She finds herself considerably better, and is now willing to submit to venesection. I took twenty ounces of blood from the arm, she bore the operation well, and did not feel faintish till after the arm was tied up. She continued weak and faintish all the afternoon. Pulse before bleeding 82, about ten minutes after, it was 74, regular, but very weak. Before bed-time it had risen to 86, and was stronger.

30th.

Slept very well, and could breathe with more freedom. Though the cough continues, she finds that it does not hurt her breast so much as it did before. Bowels regular, spirits more cheerful,

Pulse 78. The blood taken yesterday has none of the buffy coat; the coagulum is extremely dark and devoid of tenacity.

31st.

She did not sleep quite so well; but was easy and comfortable; spirits cheerful. Pulse 80, regular. I took eighteen ounces of blood from her arm, she bore the evacuation well, and said she found herself relieved by it. The pulse, about ten minutes after venesection, was 74, soft and regular.

Jan. 1st.

She continued easy and comfortable till the evening, when she was seized almost instantaneously with headach and cold rigors over the whole body. Through the night the skin became hot, and she could not bear the least exposure without bringing on the cold rigors. After the middle of the night, she fell asleep and rested tolerably well till the morning; had occasional startings through her sleep. She feels less of the cold rigors since morning, but cannot bear much exposure. Pulse 112, firm and regular. She has considerable thirst, but no appetite. The blood taken yesterday has a slight buffy coat; the coagulum more tenacious.

2d.

She continued easier through the day, but the fever returned in the evening, and she has had a restless night. She perspired a little towards morning, and is now much the same as yesterday. Tongue foul; very ill tasted mouth; thirst considerable. Pulse 116. I took sixteen ounces of blood from her arm; she felt considerably relieved by it; pulse fell to 104. The blood, when newly drawn, has a more florid colour, on standing a little, it shews a good deal of the buffy coat.

3d.

She continued easy for the greatest part of the day; fever returned in the evening. A diarrhœa coming on through the night, she was obliged to rise different times, felt exceedingly cold, but not much of the rigors. Pulse 112. She has made almost no water last twenty-four hours; not above half a pint of a very high colour, when newly made, but on standing, it becomes white and turbid, and deposits a copious pink coloured sediment. On emptying the vessel the sides of it are white, as if it had contained milk. Pretty severe headach in the morning.

7th.

Since last report she has had an exacerbation

every evening, and a remission in the morning. Pulse has ranged from 114 to 125. She has had different times a partial perspiration, and the diarrhœa continues. Last night she perspired a good deal over the greater part of her body; the remission is more complete to-day than on any of the former; pulse 96, soft and regular; headach gone; spirits more cheerful; has some inclination for food; thirst abated; cough, pain in the side and difficulty of breathing almost gone.

8th.

She was more feverish last night than she has been at all. Headach so very acute that she could not bear the smallest whisper in the room. Took a dose of senna, which has operated different times; perspired a good deal through the night; mouth dry and ill tasted. She has been more cool and easy since morning. The urine last night was very high coloured, when newly made, and became thick and turbid on standing; to-day, it is of a pale greenish colour, almost transparent and deposits no sediment. Pulse in the forenoon 106, afternoon 94. She feels cold on the least exposure, but has none of the rigors.

13th.

She has had a return of the fever every night,

for two or three hours, generally from about nine till midnight. Last evening it was from seven till nine. After these feverish turns, she has, in general, slept pretty well, and felt herself somewhat refreshed in the morning. The pulse has ranged from 84 to 100. She has taken a little food; thirst abated; tongue clean.

14th.

She has had a bad night; took a little magnesia in the afternoon; was seized about ten with a severe purging, which prevented her from sleeping till late in the morning; feels considerably exhausted with the fatigue of rising. Pulse 84.

15th.

She had some return of the fever from ten till six; took a little toddy in the evening, and rested well through the night. She has taken some breakfast and finds herself easy and comfortable. Catamenia appeared early in the morning without any previous indisposition or pain.

16th.

Had a good night, but did not sleep quite so well; catamenia continues; had an easy natural stool in the evening; tongue clean; appetite improving; took some breakfast with relish; slight

headach; no pain nor complaint in the chest. Pulse 80.

18th.

Catamenia ceased early in the morning; feels no complaint in consequence; it was formerly remarked, that she had always been regular. In health it continued for three days without interruption, and unaccompanied with any uneasiness whatever. Since she began to complain, it has returned at the regular period, but was less in quantity, of a darker colour, and always preceded and accompanied with much sickness and distress. What gave her most uneasiness, was its frequently stopping for two or three hours at a time, and returning without any evident cause. During these short suppressions, she was greatly distressed, and frequently obliged to retire to her own room. These interruptions generally occurred four or five times. In December she had no less than six of them. At present it has continued for seventy hours, without any variation, and has been natural both as to quantity and appearance. She has had a comfortable night; perspired gently, towards the morning, over the whole body. Pulse 76.

20th.

She feels her strength gradually recovering.

Since soon after the commencement of the fever, she had an uncommon acuteness of hearing. The least whisper, or noise of any kind, gave her a sort of painful sensation; even turning over the leaves of a book had this effect. Her hearing has become natural. She has been up four hours today. Pulse in the morning while in bed 72, when sitting up in the evening 80. Some urine, made last night, is still a little turbid, but deposits scarcely any sediment; on being emptied it leaves a little whiteness on the sides of the vessel. Some made this morning quite limpid. Appetite very good, but she is not allowed to indulge to any great extent; takes a little port wine negus.

25th.

She continues nearly in the same way; but, on the whole, gains strength; rises generally twice or thrice a-day, and sits up for about two hours at a time; sleeps well; has a keen appetite; tongue clean; bowels regular. The urine has now and then a little of the sediment. She has sometimes a slight return of the headach towards night. Her skin, is now as soft, well coloured, and perspirable, as in any period of her life. She has given up the wine and toddy; thinks herself better

without them. The serenity and cheerfulness of her mind are completely restored.

31st.

She continues greatly better; sits up the greater part of the day; takes her food tolerably well, and finds that it agrees with her. A troublesome toothach has prevented her sleeping so well as she would otherwise have done. Pulse 74.

Feb. 18th.

She is now able to sit up the whole day, and can walk with tolerable ease through the house. The day was fine, she took an airing in a carriage a few miles, and felt agreeable and refreshed. She has no complaint, but weakness.

Sept. 15th 1808.

In the beginning of March, she went to the country, and gradually recovered as from an ordinary fever. The catamenia not occurring at the usual time she became rather alarmed. In the beginning of April she took some steel powders, which had the desired effect. She has been as well since, in that respect, as at any former period. In summer she went several weeks to the sea coast, and is now in perfect health.

These cases are in many respects similar. They

were both induced by cold; no effectual reaction took place; the system struggled under a load, which it was unable to remove. The gradual decay of the solids, the loss of bodily strength, the decline of mental energy, the depraved state of the excretions, and the chilly uncomfortable feelings sufficiently marked a disease in the general habit. The increasing cough, expectoration, pain, and oppression in the chest indicated, in a very decisive manner, the symptoms, which at last would predominate, and give the character to the disease.

The treatment was simple. By pretty strict abstinence, the supply of new materials was prevented, by depletion the resistance of the fluids was diminished; hence after a few days the sanguiferous system took on a febrile action, and completely restored the blood. The process was aided by a casual diarrhœa and by perspiration.

Though the treatment be simple, it nevertheless, requires much caution. The slightest deviation may be attended with fatal consequences. In these two instances, every part of the plan was most faithfully executed.

About the time I treated the preceding cases, I was consulted by a young man, a few miles from

town; he was the last of several sons, who had all died of consumption. Six months before I saw him, he had been employed in clearing the water course of a mill, and had stood for several hours up to the middle. He felt no bad consequences from the exposure, except being feeble and chilly, till the end of eight days, when he was seized with slight pain in the breast, cough and some degree of fever. These never confined him to bed. After lingering, in this manner for several weeks, he recovered so far as to be able to return to his work. He took his victuals extremely well, which agreed with his stomach, but he never regained his former strength and spirits.

He laboured under a train of symptoms, very similar to what has been described in the two preceding cases, till early in January, when he was obliged to leave his work, and could not walk above two or three miles without excessive fatigue.

A strict abstinence was enjoined, and in the course of eight days, he was bled three times, in all about sixty ounces. At the end of that time, the fever commenced and continued for about fifteen or sixteen days. He got a crisis, the pulse fell to 70, and every thing seemed to go on extreme-

ly well. His appetite, which had deserted him entirely during the fever, returned and was so urgent that no remonstrances could prevent his eating. His relations, overjoyed at his apparent recovery, in place of assisting in restraining his appetite, were busied in contriving every thing which would tempt him to eat, in the hopes of securing a speedy recovery. To these imprudent steps he had also added cold. In a few days the cough returned, a hectic fever succeeded, and he died of phthisis in the beginning of May.

The want of success in this instance, though the people were fully aware of their own misconduct, led to the determination never to undertake the treatment of such cases, unless I could see the patient daily, and be satisfied that the relations had the means, and sufficient fortitude to put the plan in execution. However fatal a disease may be, if treated out of the common course, its natural fatality is apt to be overlooked, and the whole blame attached to the practice. The practice met with no blame in this instance; but it was easy to foresee what might be the result in other cases.

In the course of the spring and summer, I have treated a considerable number of patients in the

same way, the greater number of whom have completely recovered.

To abstinence and depletion mercury is a most important addition. It seems to aid the fever and bring it with more certainty to a salutary crisis. It is also a criterion by which to judge of the ultimate success of the treatment. However far the phthisical symptoms may be advanced, if, after abstinence and depletion, the mouth be easily affected with mercury, I prognosticate a cure, and as yet, I have never been disappointed. If mercury, after these preparatory steps, take no effect on the mouth, or if its effects be transient, the cure, if at all practicable, is sure to be tedious. In one instance, after using it to a considerable extent for a month, it had no effect on the mouth; it however, produced a kind of diarrhœa, which seemed, in some measure, to answer the same purpose. The affection of the mouth must be continued till every pectoral affection be removed.

I often use calomel with as much opium as is necessary to prevent its going off by the intestines. Corrosive sublimate, however, is probably the best preparation. Its effects on the system are more certain, and it can be exhibited with almost as much ease as calomel.

When one form does not easily sit on the stomach, another may be tried. If it gripe the bowels, aromatics or opium should be conjoined.

It is difficult to say how late in the disease this treatment will succeed. One thing may be observed, that it has been successful, after every other mean had failed, and where the patient appeared to have no other chance for life. It is no doubt of importance, to be able to cure diseases that are far advanced; but it is of still greater importance, to be able to detect and cure them in the earlier stages.

Chorea.

November 9th 1807.

James Kelly, four years and three months, was seized with symptoms of chorea about eight days ago. He used to be a strong healthy boy and naturally of a quick enterprizing spirit. About the beginning of August, he began to fall off in his body, and did not enter into his amusements with the same alacrity as usual. He was soon fatigued, and became more and more disposed to sit dull in his chair, and to avoid the company of others from whom he used to be inseparable. He frequently complained of pain in his head, a constant cold in the feet, and general chilliness over the whole body. Even in the warmest days, he could scarcely be prevailed on to leave the fire. He had little appetite and was rather costive. His complaints were supposed to proceed from worms, and a variety of medicines were prescribed for that purpose; but to no advantage. On the 1st instant, he complained more than usual of a feebleness in his limbs. When he attempted to walk a few steps he was

apt to stumble, without any evident cause, and often fell. His voice, which used to be uncommonly firm and clear, was observed to be altered into a kind of inarticulate mumbling, which could scarcely be understood. The eyes became dull and languid, and the whole countenance exhibited a wild idiotical stare. These complaints continued all day of the 2d. He went to bed, as usual, between seven and eight, and slept till about eleven, when he awaked in a fright, and could not for a long time be quieted. The whole body was in a state of agitation. Towards the morning he fell asleep and the agitation ceased. He slept about an hour; on awaking the agitation returned, and has continued without intermission since, except when sleeping, which has not been above half an hour at a time, and some nights he has not slept at all. It was remarked, that formerly, he had lost his appetite; of late it has become extremely craving. He eats voraciously of any thing, but is particularly fond of porridge and porter.

On the 4th, from an idea, that the complaint proceeded from worms, some medicines were given, which both vomited and purged him severely. No worms were seen, and the complaint, within these last three days, has become greatly worse,

His mother, supposing she had mistaken the disease, to make amends, has since been giving him bark and wine. The abdomen feels soft; the alvine discharge has been copious, and according to accounts, natural in appearance.

Six P. M. Sitting on his mother's knee; body so much convulsed, that he cannot sit on a chair, unless he be tied up; both sides appear to be equally agitated. He is quite sensible, and can speak in a low mumbling tone of voice. When I asked if his head was painful, he said it was. I desired him to point out the place. After making a variety of motions, with his right hand, none of which went higher than the ear, he seemed dissatisfied and made no answer. When his mother lifted his hand, and put it in the course of the sagittal sature, he seemed pleased, held it fast, and said it was there where the pain lay. The motions of his arms were so frequent and violent, that I could scarcely count his pulse. It was about 85, and rather weak. His eyes had a peculiarly wild stare. The pupils were more than usually delated. When set on the floor, he could make a kind of a run, like a drunk person, for a few steps, till he got hold of an object. If the distance was more than two or three yards, he fell.

From his having all along complained of his head, I easily got permission to take blood from the jugular. Nine ounces were taken in a full stream. He cried a good deal, and became faintish towards the end of the operation, but this went off on being laid in bed. I staid about a quarter of an hour, during which time, I could not perceive the slightest motion in any part of his body. He spoke more distinctly, and said that his head was better.

10th.

He fell asleep, soon after I left him, and slept till nine. He awaked rather in a kind of fright, seemed restless for a little, but soon became quiet, and had very little of the convulsive motions. He slept from ten till twelve, awaked composedly, took some supper, and slept soundly till three; from a little after that till six, and from seven till nine. He has slept more last night than he has done since he was first seized with the convulsions. The motions are not gone, but much abated. He can sit upright in a chair; take a cup in his hand and carry it directly to his mouth; countenance more cheerful, says he has no pain in his head.—Blood taken last night has a good deal of the buffy coat. Powders ordered.

Evening. He took one of the powders, containing ten grains of jalap, and two of calomel; in an hour, he became sick, vomited, and soon after had two copious fetid stools, of a brownish colour. The matter thrown up had a similar appearance, and very diagreeable smell. After the operation of the medicine, he became pale and faintish, but soon recovered, and has been more lively and cheerful than before. The convulsive motions have mostly left his head and lower extremities, the hands are still affected.

11th.

He has had a very restless night; slept none till after six in the morning. Convulsive motions very considerable in every part of the body. No stool since the operation of purgative: he took a powder about an hour ago. Evening. He has taken three of the powders without any effect. Extremely restless and fretful. Ordered an enema to be given directly.

12th.

Before the enema was got ready the purgative operated well; discharge copious, but not so fetid as the last; he was much relieved after the evacuation, slept very little through the night, convulsive motions the same as yesterday. Evening.

He has taken three of the powders; four copious watery stools, appearance and smell more natural. Slept a little after the operation of the purgative. Motions continue as formerly.

13th.

He has had a restless night; convulsions worse than they have been any time since bleeding; complains of pain in the head; temper extremely peevish and irritable. About ten ounces of blood were taken from the jugular, he bore the operation tolerably well; became a little faintish afterwards and went to bed. Evening. The convulsive motions have scarcely been observable since bleeding; he has been rather weak and disposed to rest, slept about two hours in the afternoon.

14th.

He has had a sound refreshing sleep of nearly six hours, awaked quite composed and has very little of the convulsive motions. His spirits are much more cheerful than they have been at any period of the disease. He has been amusing himself, for the greatest part of the forenoon, with a young cat, and seemed pleased with some of his companions, who joined him in the sport. He also expressed a wish to have on his best clothes and to go out. Evening. The convulsive motions

continuing in a slight degree, and supposing they might arise from some irritability in the system, after the principal cause of the complaint was removed, an opiate was prescribed.

16th.

The opiate has been taken these two nights, and he has rested well. The convulsive motions were scarcely observed yesterday, and not at all to-day. Having become rather costive, a few grains of calomel were ordered.

17th.

The calomel operated remarkably well, he had several copious stools, in which there were a great number of very hard scybala, some of them of considerable size; there was also a very large lumbricus, the only one which has been seen during his illness, though a variety of medicines was prescribed for the purpose.

In two weeks after this, the patient was in perfect health, and has continued well ever since. I have had no opportunity of repeating the practice; but in obstinate cases, which do not yield readily to purgatives, venesection might, perhaps, be employed with advantage. This case seems to prove, that the convulsive motions do not depend on

obstruction in the bowels, for they were completely removed, even while the hardened scybala remained. I am apt to think that the convulsive motions, the torpid intestines, the chilly state of body, and the peevish irritability of mind are merely symptoms of a diseased habit. The bleeding had an instantaneous effect in relieving them; after the system was repaired, a few grains of calomel enabled the intestines to discharge scybala, on which, doses three or four times as large had no effect in the earlier part of the treatment. The relief obtained at the time the scybala are discharged, is rather an incident, than the effect of the latter.

Plethora.

July 31st 1807.

Mrs M'Laughland, aged 39, the mother of nine children, weaned the youngest in May last; is rather of a plethoric habit, but much fallen off lately. When her last child was about two months, her oldest son was seized with a violent complaint in his right thigh, which terminated in the destruction of the greater part of the femur. He continued in great distress for near five months. Her attention to him was unremitting. All that period, and till the child was weaned, she was not two days, at once, free from an uterine discharge of a dark appearance, generally clotted and sometimes accompanied with a most offensive smell. Since the weaning of the child, the catamenia returns every three weeks, it continues for about eight days, and is succeeded by a very profuse leucorrhœa.

For several years, she has been much troubled with bile, hysteria, flatulence and an irregular state of bowels, generally costive. The catamenia has continued since the evening of the 25th and

been more profuse than usual. Since that time, she has also been troubled with an occasional diarrhœa. This morning at six, she felt herself as well as usual, but on putting her feet over the bed-side, she was seized instantaneously with pain around the umbilicus, with violent twisting in the bowels, and a sense of stricture across the epigastric region; the pain and spasms gradually extended till the whole abdomen and thorax became affected. During a short remission, after the first attack, a dose of castor oil was administered, in two hours it operated twice and gave some relief; but the pain and spasms soon returned and increased in violence.

She continued in this state till after mid-day; when I first saw her, she was sensible, but could not speak; on asking for something, she pointed to a drawer where it was lying. Respiration seemed to be almost suspended, except now and then, a wheezing noise like a person dying of croup. She was sitting in a chair supported by three or four attendants, who had great difficulty in preventing her from throwing herself into the most dangerous positions.

Her arm was tied up and I had not taken six or seven ounces of blood, when a rapid motion of

the chest ensued, which gradually became slower as the blood flowed; by the time I had taken eighteen ounces, she breathed with freedom, and could speak in a low tone of voice. The countenance, which before was livid, or rather black, assumed something of its natural appearance. She also discharged a very great quantity of flatus from the stomach by which she was much relieved. Nothing of this kind occurred till after the bleeding. After the operation she became faintish, but this soon left her on being laid in bed. She found herself completely relieved except a little pain and fulness about the pit of the stomach, which were also removed after a few more eructations. Her pulse about half an hour after the bleeding was 80, but very weak.

Evening. She has had no return of the spasms since venesection; has still some pain in the epigastric region. She has had two copious fetid stools, and a profuse discharge of pale urine. As the pain was not completely removed, and as the pulse had become stronger since bleeding, the operation was repeated to the extent of fourteen ounces, from which she felt relief. Pulse 78; tongue white, but moist. The catamenia left her in the morning, but returned soon after the

first bleeding; she is inclined to sleep. The blood taken first, was very dark and venous; on cooling, the crassamentum had nothing of the buffy coat, and was very devoid of tenacity. That taken in the evening, was more florid.

1st Aug.

She had an easy night, but did not sleep much. The catamenia has ceased since six in the morning. No return of hysteria. Powders of jalap and calomel were ordered. The blood taken last night has no buffy coat, but the crassamentum is more tenacious. Pulse 74.

2d.

She had a severe colic from seven till ten last night, but nothing of the difficulty of breathing; imputes it partly to the purgatives; had three copious stools about one in the morning, after which, she had some refreshing sleep. Pulse 76. She feels herself greatly better to-day; has been up since morning and is able to walk a little.

3d.

She has had a worse night; complains of stricture and pain across the epigastrium, attended with a twisting of the bowels, as if a large ball were tumbling in the upper part of the abdomen. Urine high coloured, when newly made, but becomes

muddy on cooling; considerable flatulence; had two loose stools last night and one this morning. Pulse 80, complains of great oppression and dulness of spirits. I took eighteen ounces of blood; she sat up and did not feel at all faintish.

4th.

She has been much better since last bleeding. She has not sighed any, and a sensation about her heart, to use her own words, "as if it was drowning," is gone. She had several sound refreshing sleeps. The pain in the epigastrium is much abated, but not quite gone. Sixteen ounces of blood were again taken, from which she experienced the same relief as formerly. Pulse 84. The blood taken yesterday has a little of the buffy coat; that taken to-day is very sizy.

7th.

She has continued very well since last report. Though it is now six days since the catamenia left her, the leucorrhœa has not made its appearance; formerly the one used to change gradually into the other. She has been in better health these two or three days than for several years. Pulse 74, firm and regular.

13th.

She has been working constantly since last re-

port. She had a slight return of the leucorrhœa for one day, but it has entirely left her. No return of the catamenia; for several months past, she could not lift a bucket of water hastily, but it would bring on a uterine hæmorrhage, she has done that repeatedly within these two or three days without any bad effect. Sleeps soundly, were it not for a child, she does not think she would awaken from night till morning. For the last twelve months she did not, on an average, sleep three hours a-night. Appetite improves, she has taken some steel powders with advantage.

19th.

The catamenia returned on the 16th, and continued till this morning. For a few hours, she felt very much oppressed, but after the discharge commenced, she became easier and has been well ever since. For the first twenty-four hours the evacuation was profuse and all fluid; the last two days it was the same as it used to be in health.

July 14th 1808.

This patient has continued well ever since. The catamenia generally recurs a few days within the month. She has occasionally had a slight return of the leucorrhœa on any great exertion; but it never continues above a day or two, and is not ac-

companied with the same pain in the back and feebleness as formerly. She has never had the slightest symptom of hysteria since the paroxysm mentioned in the last report.

Aug. 8th 1807.

A GENTLEMAN 46 years of age, of a full habit, stout make, dark complexion, about five years ago, when going up a stair, stooped suddenly to lift some small object from one of the steps. In doing this, he thought he felt something give way about the lower part of the back; but, as he had no pain, it was not minded, till going to stool, he voided a large quantity of blood. His stools continued bloody for a day or two, but he afterwards enjoyed very good health.

Five or six months after, he rosè one night, and after voiding a very large soft stool, felt himself so weak and faintish, that he thought he would have expired on the spot. On recovering a little he got to bed, and was tolerably well in the morning. About three months after, he had a similar discharge.

These evacuations were without pain, and of late have recurred regularly every three or four weeks. Persons accustomed to see him can foretel the

event by his countenance. He is naturally of a lively cheerful turn of mind; but when these evacuations are about to commence, his nerves are much affected; he feels remarkably dull, and cannot think to go abroad or see any person. After the evacuation he gradually recovers his usual flow of spirits. His appetite is always good, and he lives a good deal on animal diet. He has frequently remarked, that after taking porter for a few days, the tendency to plethora was very great. The bowels are apt to become costive in the intervals between the evacuations of blood.

His principal complaint of late years, has been an occasional stupor and giddiness. In winter last he got his hair cut, and bathed his head with cold water, which he found grateful, but during its application a weakness and faintishness about the chest came on, that obliged him to give up the practice.

A few days ago, he walked from Glasgow, and was a good deal fatigued; but after bathing his feet and getting a tolerable night's rest, he was better by the morning. Yesterday he had an uncommon flow of spirits; slept pretty well through the night, but on attempting to get up in the morning, he found himself so giddy that he

was obliged to go to bed again. The periodical discharge should have come on a few days ago, but it had merely made its appearance and gone off. Tongue white; bowels costive; pulse 64, pretty strong and full. Twenty-four ounces of blood were taken from his arm, without any effect. The blood was extremely dark, and coagulated almost as fast as it was discharged.

9th.

A dose of salts, which he had taken yesterday morning, operated very well in the afternoon, and he was better in the evening. He had rather an easy night, but did not sleep well. Powders of calomel and jalap were ordered. Pulse 60.

10th.

The powders operated very well, six or seven copious fluid stools, dark and fetid. Giddiness continues much the same; but the weight about the precordia is better since bleeding, and particularly since the evacuation by stool. Twenty-four ounces of blood were taken from his arm, he bore the operation well. The blood was slightly inflamed in one of the cups, in the plate it was very dark, and so much disposed to coagulate, that though it flowed rapidly, the vessel was heaped as

if filled with thick jelly. Urine scanty and high coloured. Pulse 54.

11th.

He finds himself better, but the vertigo is not quite gone. His relations objected to farther venesection, as tending to weaken his nerves, a complaint to which he had been so peculiarly liable: I was the less anxious on this head, as he was willing to take purgatives, and these appeared to have a very powerful effect in depleting the system. The powders of calomel and jalap, alternated with doses of Rochelle salts, were continued for some time. A spare diet was also enjoined, with exercise in the open air. From that time till January, he enjoyed an uninterrupted state of good health, and was not at all troubled with the periodical discharge.

Early in January he caught cold, and was seized very much in the same way as formerly. The fever, however, was higher and the affection of the head more alarming. He was bled to the amount of 54 ounces, repeatedly purged, and a more rigid abstinence was enjoined. He soon got better and has continued well ever since. On one or two occasions, he had a slight return of the discharge after considerable bodily exertion. What gives him

the greatest satisfaction is his being completely freed from every nervous symptom. With about half the nourishment, and double or triple the exercise, he enjoys a degree of vigour, to which, for many years, he was an entire stranger.

Mrs L. aged 45, the mother of a numerous family, the youngest eight years of age; she is rather of a plethoric habit, but has enjoyed very good health, till about six or seven months ago. At that time the catamenia ceased, without any known cause. For a while, she took her victuals very well, and had little complaint except a cough, which she expected would leave her as the spring advanced. In February and March, however, it increased, was accompanied with pain, and a very profuse expectoration, the greatest part of which, sinks in water. What distressed her most of all was a constant dyspnœa, which made her sit up night and day.

When I saw her, she was so much reduced in strength, that she could scarcely walk through the house. She assured me that she had not slept two hours for more than a week, and even that, was in fits and starts of five or ten minutes at a time. She had not taken as much food for two months

as would have supported a child of a year old. The feet were œdematous and generally cold; over the rest of the body there was often a burning heat. Pulse 96, weak and not altogether regular. On applying the hand over the heart, a violent palpitation was felt, extending downwards into the epigastric region. The tongue was white and foul, with a constant bad taste in the mouth, the gums were spongy and ulcerated.

April 21st 1808.

I took about twenty ounces of blood from her arm, which afforded her relief. She bore the operation well, and was afterwards able to lay her head lower than she had done for some weeks. The blood had a good deal of the buffy coat. Pulse before bleeding 96, after it 88. Calomel pills were ordered.

26th.

She has taken two of the pills at night, and one in the morning regularly; besides purging very freely they have also affected the mouth so much, that she can neither eat nor drink. The dyspnœa still continuing to trouble her a good deal, she lost twenty ounces of blood, which was still more inflamed than the former. Pills to be discontinued. Pulse 86.

28th.

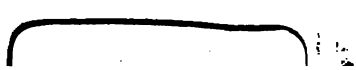
On the evening of the 26th she was seized with a most severe attack of menorrhagia, which continued through the night and the greater part of yesterday. The quantity lost in this way, she asserted to be twice or thrice as much as was taken by the lancet. It has ceased since morning, and she feels herself free from every complaint, except weakness, and the pain in her mouth occasioned by the calomel. Pulse 74, regular.

In two weeks after this she was in perfect health, and has continued so ever since; the catamenia as regular as at any former period.

I HAVE ranked these three cases, under the term Plethora, because there was an obvious fulness of the sanguiferous system, and because a cure was effected by a profuse evacuation from that quarter. In the first instance the patient had a complication of diseases. The most urgent was the hysteric paroxysm, but she had also been long subject to menorrhagia and leucorrhœa. In the second instance there was a considerable tendency to an affection of the brain, at the time I saw him; but previous to that the hæmorrhoidal discharge and a debilitated state of the nervous system were the most con-

spicuous of his complaints; various means of relief had been tried in vain. In the last instance the lungs were in imminent danger; but it is probable she would have died of dropsy, in one form or other; it had commenced in the feet, and she had also symptoms of hydrothorax. She had an urgent thirst, and the urine was scanty and high coloured. In this case, it is doubtful, if depletion would have been carried a sufficient length to obtain a crisis, had not nature stepped in and taken the business into her own hands.

In the treatment of all of them, my sole object was to restore the balance in the system, without regarding the local affections. After that was accomplished, not only the more conspicuous, but all the symptoms, which marked a diseased habit disappeared.

THE END.

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